DOCUMENT RESUME

ED 318 454 IR 014 369

AUTHOR	Chauvenne, Sherry; And Others
TITLE	Introduction to Computers: Parallel Alternative Strategies for Students. Course No. 0200000.
INSTITUTION	Palm Beach County Board of Public Instruction, West Palm Beach, Fla.
SPONS AGENCY	Florida Diagnostic and Learning Resources System, West Palm Beach.
PUB DATE	89
NOTE	499p.
PUB TYPE	Guides - Classroom Use - Guides (For Teachers) (052) -- Tests/Evaluation Instruments (160)
EDRS PRICE	MF02/PC20 Plus Postage.
DESCRIPTORS	*Computer Graphics; *Computer Literacy; *Computer Software; *Databases; Emotional Problems; Instructional Materials; Learning Disabilities; Mainstreaming; *Problem Solving; Secondary Education; Spreadsheets; Supplementary Reading Materials; Telecommunications; Textbooks; *Word Processing; Workbooks

ABSTRACT

Parallel Alternative Strategies for Students (PASS) is a content-centered package of alternative methods and materials designed to assist secondary teachers to meet the needs of mainstreamed learning-disabled and emotionally-handicapped students of various achievement levels in the basic education content courses. This supplementary text and workbook for an introductory computer course is divided into 14 chapters which address such topics as how computers work, computer hardware, computer software, problem solving with computers, an introduction to BASIC, word processing, databases and computer communication, spreadsheets and graphics programs, computer crime and abuse, computers and careers, and supercomputers of the future. Each chapter contains a teacher's guide (which includes intended learning outcomes, suggested learning activities, and a list of vocabulary words for each unit) and student materials (including study sheets, textbook work sheets, work sheets, and sample tests). Also included are answer keys for the tests and software worksheets. (GL)

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Introduction to Computers

Course No. 0200000

Parallel Alternative Strategies for Students

School Board of Palm Beach County
Department of Exceptional Student Education

IR014369

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Introduction to Computers

Course No. 0200000

Parallel
Alternative
Strategies for
Students

School Board of Palm Beach County
Department of Exceptional Student Education

CAS 100

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ACKNOWLEDGEMENTS

PASS materials were initially developed in Florida
through Project IMPRESS
an EHA VI-B Project
funded to Leon County in 1981-84.

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FOREWORD

Parallel Alternative Strategies for Students (PASS) is a content-centered package of alternative methods and materials designed to assist secondary teachers to meet the needs of students of various achievement levels in the basic education content courses. Each PASS offers teachers supplementary activities and strategies to assist certain exceptional students and low achieving students in the attainment of the intended outcomes of a specific course.

The alternative methods and activities found in the PASS materials have been adapted to meet the needs of specific learning disabled and emotionally handicapped students mainstreamed in content classes. The PASS materials provide basic education teachers with a modified approach for presenting the course content that may be useful with mainstreamed exceptional students and other students with learning or behavior problems in their classrooms. The PASS materials also provide the exceptional education teacher, teaching subject area courses, with curriculum materials designed for these exceptional students.

Neither the content nor the activities are intended to be a comprehensive presentation of any course. These PASS materials are designed to supplement the textbooks and other instructional materials and should not be used alone. Instead, they should serve as a stimulus for the teacher's own creativity to design alternative strategies for teaching the student performance standards to the mastery level to the diverse population in a middle/junior high school class.

As supplementary material to augment the curriculum for exceptional students and other low achieving students, PASS may be utilized in a variety of ways. For example, some infusion strategies for incorporating this text into the existing program are as follows:

1. alternate resource to the basic text
2. sample tests to use as a pre-teaching or post-teaching tool
3. alternate homework assignment
4. alternate reading assignment
5. extra credit
6. make-up work
7. outside assignment - individual contract
8. self-help module
9. individual activity for drill and practice
10. general resource material for small or large groups
11. software activity
12. audio cassette tape directions to accompany software

The content in PASS differs from the standard textbooks and workbooks in several ways: simplified text, reduced vocabulary level, increased frequency of drill and practice, shorter reading assignments, more clear and concise directions, less cluttered format, and the presentation of skills in small sequential steps.

Students with learning or behavior problems often require alternative methods of presenting and evaluating important content. The PASS is an attempt to provide some of the modifications necessary for students with special needs to have successful classroom experiences.

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This product was developed through the FDLRS/Alpha Associate Center project awarded to Palm Beach County. The Florida Diagnostic and Learning Resources System (FDLRS) is funded through Federal Assistance for the Education of the Handicapped, P.L. 91-230, EHA, Part B, and State Assistance through General Revenue appropriations, to provide diagnostic and instructional support services to Florida's exceptional education programs, statewide.

1989

TABLE OF CONTENTS

FOREWARD

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

USER'S GUIDE

LEARNING STYLES

INDIVIDUALIZED PROJECT IDEAS

FROM HANDS TO COMPUTERS

CHAPTER 1 - HOW COMPUTERS WORK

CHAPTER 2 - COMPUTERS IN OUR LIVES

CHAPTER 3 - GETTING THE COMPUTER TO DO WHAT YOU WANT

CHAPTER 4 - COMPUTER HARDWARE

CHAPTER 5 - COMPUTER SOFTWARE

CHAPTER 6 - SOLVING PROBLEMS WITH COMPUTERS

CHAPTER 7 -INTRODUCTION TO BASIC

CHAPTER 8 - INTRODUCTION TO WORD PROCESSING

CHAPTER 9 - DATABASES AND COMPUTER COMMUNICATION

CHAPTER 10 - ELECTRONIC SPREADSHEETS AND GRAPHICS PROGRAMS

CHAPTER 11 - THE BENEFITS OF COMPUTERS

CHAPTER 12 - COMPUTER CRIME AND ABUSE

CHAPTER 13 - COMPUTERS AND CAREERS

CHAPTER 14 - SUPERCOMPUTERS OF THE FUTURE

SOFTWARE WORKSHEETS

ANSWER KEYS

USERS'S GUIDE

The Introduction to Computers Parallel Alternative Strategies for Students (PASS) is designed as a supplementary text and workbook for course number 0200000. It is divided into fourteen chapters of study.

Each chapter contains a teacher's guide with the intended outcome addressed within the unit listed at the beginning. The teacher's guide also contains a section called, "Suggested Teacher Activities", which lists various approaches and activities for presenting the unit content to the students. There is also a list of vocabulary words that might be incorporated into that unit. These vocabulary words can be given to the students to create dictionaries or to supplement spelling exercises.

The student materials in each unit include Study Sheets, Textbook Work Sheets, Work Sheets and Sample Tests, which may be reproduced for the students' use. The study sheets and work sheets present selected skills outlined in the Florida State Minimum Student Performance Standards for Computer Literacy. Answer keys are located in the Appendices.

It cannot be assumed that students will learn the content from the handouts alone. The presentation should be accompanied by an oral introduction, discussion and demonstration of the skills described in the Study Sheets.

The Work Sheets were designed to be sufficiently general and adaptable enough to accompany the Scholastic Computing textbook. They are best used for drill and practice or review to reinforce the unit objectives and the student performance standards. Answer keys are located in the Appendices.

Work Sheets have also been included for use with specific software programs. Cassette tapes have been developed to correspond to the software and work sheets so that students with poor reading skills can have each screen read aloud to them. It is suggested that students work independently using cassette players with earphones.

This modified curriculum presents only a limited sample of learning activities. Teachers using these supplemental materials will want to provide a variety of opportunities to stimulate the students' interest and develop higher levels of cognition. The classroom experiences will be further enriched with the inclusion of audio-visual aids, software activities, hands-on computer experience, and opportunities for both oral and written creative expression in conjunction with each unit.

No one text can adequately meet all the needs of all the students. This PASS is no exception. The teacher-developed materials contained herein coupled with other carefully selected resources, effective teaching strategies, and the teacher's professional judgment should provide a good foundation for teaching the Introduction to Computer course to exceptional students.

LEARNING STYLES

There are three identified learning styles or modifiers: visual, auditory and tactile-kinesthetic. Most people use a combination of modalities to learn and reinforce concepts, but many individuals learn best by a particular modality.

The **visual learner** learns by watching demonstrations, pays attention to details, relies on configurations and patterns, and organizes thoughts by writing them down. A visual learner prefers software that has a clear, organized screen; that gives examples; that is self-paced or allows the user ample viewing time of the screen display; that presents organized visual information, and that offers a recordkeeping or score sheet option.

The **auditory learner** learns by listening and verbalizing, responds well to appropriate sounds, benefits from discussion, organizes and integrates auditory stimuli well and solves problems verbally. The auditory learner prefers software that has appropriate auditory feedback which allows the learner to turn sound on and off. Speech synthesizers are particularly appropriate for the auditory learner. They also prefer getting instructions and directions orally rather than on the screen and will verbalize the learning that is taking place with a partner.

The **tactile-kinesthetic learner** learns by doing a task himself because he remembers the actions. This learner responds well to sensory stimulation and to a physical approach to problem solving. In general, this type learner attends to tasks for short periods of time. The tactile-kinesthetic learner prefers to use peripherals such as a joystick, PowerPad, Koala Pad or mouse. When working in a group, this learner would benefit most from operating the keyboard.

COMPUTER LAB STRATEGIES

There are specific strategies that have been identified which can make the computer lab experience more beneficial for exceptional students. No one technique will be successful for all students. The special education students who are most likely to be mainstreamed into the computer lab include:

EH - Emotionally Handicapped
MH - Mentally Handicapped
SLD - Specific Learning Disabled
VI - Vision Impaired
HI-Hearing Impaired

1. Identify and use favorite software programs as incentive for **behavior modification** programs. Be sure that the **target behavior** is **identified**, and known to the student. Reward the student with his favorite software programs when the target behavior is exhibited. (EH, SLD, MH).

2. **Avoid** software which has **negative comments,** makes it more **fun to be wrong** than right, **frustrates** the student, or **over-stimulates** the students. (EH, SLD, MH).

3. Select software that is **challenging**, presents concepts in **short lessons**, and allows the student to **experience success** so that they build self- confidence in working at computers. (EH, SLD, MH)

4. Select software that begins on a student's **developmental level** and increases difficulty in **small, sequential increments.** (EH, SLD, MH)

5. Select software with **text** that has **large, fully formed letters** on the screen to assist students with reading problems. (SLD)

6. Avoid software that has too much **visual clutter** or that uses too many commands or **special function keys** which may be confusing to students. (EH, SLD, MH)

7. If a piece of software requires good **visual-motor skills,** make sure that the use of game paddles or highly coordinated finger manipulations on the keyboard matches the student's ability. (i.e. avoid software that frustrates the child because of reading problems or manipulative abilities.) (EH, SLD, MH)

8. When necessary, provide **"prompt aids"** or "learning aids" for students. These can include: (EH, SLD, MH)

    taped directions of screen activity

    folder directions that give additional information to assist the student in using the software

    a "language master" dictionary of vocabulary words related to computer literacy and specific software programs

    list of commands required to operate a specific piece of software

9. Encourage the student to compose written assignments using a simple **word processor** with a **spell checker** to check work for spelling errors. (SLD)

10. Make sure that the student knows **how to operate** the software. Read **directions orally** or **demonstrate** the software and **provide practice in its use** before letting student work independently. **Monitor student progress** to ensure the mechanics of the software are not interfering with the learning process. (SLD, MH)

11. Be sure to **relate the use of a specific piece of software to a student's previous learning** experience. Provide **transfer activities,** so that the student practices new skills in more than one 'environment'. (SLD, MH)

    For example, if a student is using a piece of software to learn about the parts of the computer, then concrete demonstrations of the parts, worksheets on the parts and other activities should be incorporated into the learning experience so that the student reinforces the information in more than one modality and in more than one environment.

12. Provide a **structured lab environment.** Students should know the procedure for **entering the room, getting class assignments, getting homework assignments, getting correct software titles** for use in the lab, **start-up procedure,** and **shut-down procedure.** (EH, SLD, MH)

13. Note whether a student displays **hyperactive or withdrawn behavior.** (EH)

    A hyperactive student should be one-on-one with the computer. He should NOT use software that might stimulate increased overt actions.

    A withdrawn student should be given the opportunity to work with a partner. Software that stimulates a reaction is appropriate for this student.

14. If students are working in **pairs, monitor conduct continuously.** A student with stronger academic skills CAN be a good peer tutor. However, it is just as likely that the stronger academic student will dominate the computer time, while the special education student sits passively.

15. One teacher-tested delivery method used in a computer lab that consisted of regular education, basic education and mainstreamed exceptional students included the following strategies:

    Divide the class into two groups.

    Group One works individually at the computer for half the period completing software activities using worksheets accompanied by cassette tapes that give oral directions to information on the computer screen.

    Group Two completes the Textbook Worksheets at their desk using the Scholastic Computing textbook. These worksheets are designed to provide success even for non-reading students.

    Half way through the period, the Groups exchange places.

    The Textbook Worksheets are reviewed orally by the teacher the next day to ensure student comprehension of the concepts and vocabulary.

    Select worksheets from the Middle/Junior High School Supplimental Activities for Computer Literacy are used to reinforce certain objectives or to provide homework assignments.

INDIVIDUALIZED PROJECT IDEAS

All projects are to be displayed on a piece of poster board. The project MUST HAVE a title that relates to the topic and your name legibly written on the outside. Projects are graded on the use of color, neatness, attractiveness, research, and thoroughness.

Each student in the class must select a different topic.

1. Draw a device from computer history. Identify how the device worked.
2. Write a short report about a person who contributed to the development of the computer. Use references other than your textbook.
3. Prepare a poster board "Time Line" for the five generations of computers:
   (1) vaccum tubes;
   (2) transisitors;
   (3) integrated circuits;
   (4) LSI/VLSI;
   (5) Artificial Intelligence. Draw what each looked like.
4. Prepare a chart on how people use computers in their homes.
5. Prepare a chart on how people use computers in their schools.
6. Prepare a poster on how people use computers in offices .
7. Prepare a poster on how computers are used in medicine.
8. Prepare a poster on how computers are used in law.
9. Prepare a poster on how computers are used in engineering.
10. Prepare a poster on how computers are used in banking.
11. Prepare a poster on how computers are used in traffic/transportation.
12. Prepare a poster on how computers are used in the government.
13. Prepare a poster on how computers are used in a library.
14. Prepare a poster on how computers are used in manufacturing.
15. Prepare a poster on how computers are used in the arts.
16. Prepare a poster on how computers are used in publishing.
17. Prepare a poster on how computers are used by the public utilities.
18. Prepare a poster on how computers are used by the National Weather Service.

19. Prepare a poster on the various computer careers available (computer operators, system analysts, programmers, etc.)

20. Display computer generated materials (bills, bank statements, letters, etc.

21. Write a report on what a home robot can do, or is projected to do in the future.

22. Create a poster with a robot on it and tell what the robot is capable of doing. Conduct research in order to create a believable robot.

23. Interview someone who works with or on computers and write a report about that person's answers.

24. Make a poster display of newspaper ads, magazine ads and articles about computers.

25. Display attractively various want ads from local papers of computer jobs that are available.

26. Collect pamphlets from retail stores on various computers that are available for sale, display them attractively.

27. Write a report on future computer expectations, (i.e. what computers are expected to do in the future.)

28. Draw a picture of jobs that no longer exist because computers have replaced them, or made them easier or different.

29. Display the laws and penalties of computer software misuse. Describe what is illegal and why.

30. Label and display the various parts of a computer and identify each purpose.

31. Display various input devices and tell what they do.

32. Display various computer terms and definitions with pictures.

33. Display various printer features or explain their operation.

34. Display future computer expectations, how the world will change.

Notes on Keyboarding Skills

One of the most frustrating concepts for students to grasp is keyboarding. With keyboarding software such as The Typing Instructor first computer program experience, students have the opportunity to become familiar with the key locations.

As a preliminary introduction to keyboarding, have the students fill in a blank keyboard sheet with the appropriate key identifications. Afterwards, with the use of a transparency, further explanation may be given about the special keys. In addition, specific instruction on which finger reaches to which key can be demonstrated by the teacher. The student may then color code the keyboard worksheet by using a different color for each home row finger and its assigned keys. Sample keyboard worksheets for the Apple and IBM are located in Chapter 8.

Specific typing positions force the student to comprehend that this is a skill that needs their undivided concentration and attention. They should not to allowed to use a hunt and peck method of entering data into the computer.

Without direct, oral instruction on typing positions, the student tends not to take keyboarding (i.e. touch typing) seriously. In particular, the ESE student needs a very structured learning environment, with specific rules to follow. With these rules, the ESE student does not usually consider software, such as the "Typing Instructor", a game.

1. Pull the keyboard toward the student, so that it is flush with the edge of the desk or table.

2. The student should align himself/herself so that his/her belly button, knavel, is pointed directly between the J and K keys.

3. With either hand, spread the fingers out as far as possible. Allow the thumb to just touch their stomach, and little finger to just touch the edge of the desk or the edge of the keyboard, so that each student is a hands width away from the keyboard.

4. Since most of the chairs are nonadjustable, and most of the students are short, or are taller in the legs, rather than in the upper torso, the use of telephone books to sit on permits the student to keep their

fingers securely placed on the home row keys, so that they are typing with the tips of their fingers rather than the balls of their fingers. When they place their fingers on the keys, they should not be able to see their finger nails. (Some girls need to cut their nails.)

5. While sitting with their rear ends pointed toward the back of the chair, the student's shoulders should lean toward the keyboard, with their elbows relaxed at their side.

6. Feet should be flat on the floor, or on top of a telephone book for feet and leg support.

7. As they type, the other fingers should remain stationary, without moving, while the typing finger reaches to the appropriate key. No Liberace typing.

8. To help the students keep their fingers on the home row keys without lifting them up to find other keys, have the student use the color coded keyboard chart to assist them.

9. Each lesson, on software such as The Typing Instructor, should be typed in its entirety at least three times each, if time allows, marking a date sheet when each lesson has been completed the required amount of time.

10. At the end of lessons 9 and 10 of The Typing Instructor, the teacher should give verbal feedback as to whether the student has mastered the proper typing skills. Be sure the student creates capitol letters using the shift keys, not the CAPS LOCK key.

11. Just learning the letter keys is sufficient. Mastering the number keys is very difficult.

12. The teacher should verify that the student is using the right thumb on the space bar, and the little finger of the right hand on the RETURN or ENTER key.

PACKET: FROM HANDS TO COMPUTERS

INTENDED OUTCOME ADDRESSED IN THIS UNIT:

The student will identify major historical developments that led to present day computer technology.

INTRODUCTION

This packet contains teacher strategies, study sheets, sample tests and a self-help module for students to take home.

Included in this unit are Textbook Worksheets which are correlated by page and paragraph to the Scholastic Computing textbook. These worksheets have been used successfully with students who have poor reading and study skills. They provide a structured study guide to the information in the textbook. Scholastic Inc. has granted permission to copy these sections of the textbook.

VOCABULARY

abacus
analog
calculations
chip
circuits
digital
electro-mechanical
gear-driven
generation
integrated circuit
inventors
loom
machine language
mechanical
microcomputer
microprocessor
programming language
tabulate
transistors
vacuum tubes

SUGGESTED TEACHER ACTIVITIES

Select appropriate classroom and take home activities needed to implement and reinforce the objective. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your school media specialist, from the Palm Beach County School Board Film Library or from your personal collection.

Discuss the **developments in technology** that brought about the modern microcomputer. Begin with the abacus and progress to the present day technology.

Make use of **time-lines** and integrate other historical events, literary developments or scientific inventions to give students a better perspective of the historical period.

Develop a **display of the different parts of a computer** that show its historical evolution. Old vacuum tubes, transistors and microchips can sometimes be obtained from electronic or television repair stores.

Display **posters** or make a **bulletin board** that illustrates the **various historical** computing devices.

Write **a short report about a person who contributed to the development of the computer.** Encourage students to use good writing form and to list their references. Make use of the school media center for resource material.

Make a **chart** or **bulletin board** illustrating the **timeline of the five generations of** computers (vacuum tube, transistor, integrated circuit, Large Scale Integration (LSI) and Artificial Intelligence(AI).

Write a paragraph using the Homeword word processor on one of the individuals who contributed to the development of the computer: These individuals include:

Pascal
Leibnitz
Jacquard
Babbage, and
Hollerith

Start a '**dictionary' of computer terms** on **language master cards.** The cards should be arranged alphabetically by the key word. Provide short definitions for each word. Have the 'dictionary' easily accessible in the computer lab.

Provide students with copies of the self-help, take-home packet for study and homework.

FROM HANDS TO COMPUTER
SAMPLE TEST

Name:____________________ Period:____________________

CHECK YOUR KNOWLEDGE OF COMPUTER HISTORY

Put the events listed below in order from past to present. The first one is identified for you with the number 1.

---------- In 1944 Aiken designed and built the Mark I.

---------- The slide rule was invented by William Oughtred in 1630.

---------- Pascal designed a counting machine in 1642.

1
---------- The abacus was developed around 300 B.C.

---------- In 1964 integrated circuits were used instead of transistors.

---------- In 1954 transistors were used instead of vacuum tubes.

---------- Jacquard developed a loom for weaving in 1801.

---------- ENIAC was designed and built beginning in 1946.

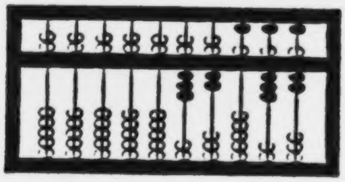
---------- Babbage started designing the Analytical Engine in 1822.

---------- Hollerith took the 1886 census on a Tabulating Machine.

NAME: ______________________________ **PERIOD:** __________

EARLY COMPUTING DEVICES

Directions: Identify the name of the device which lead to the development of the computer.



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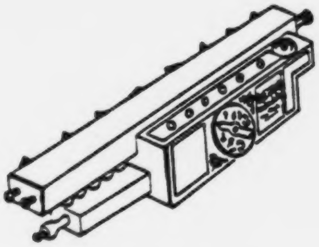

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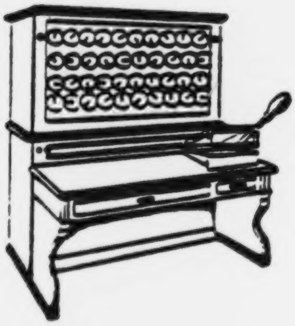

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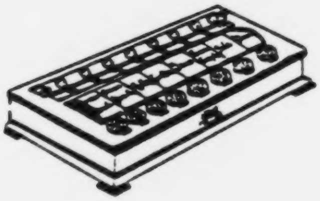

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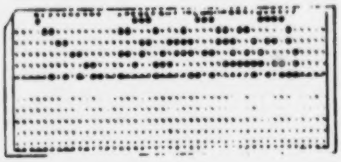

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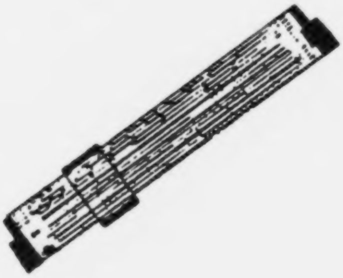

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FROM HANDS TO COMPUTERS **A-5**
WORK SHEET

NAME: ______________________________ **PERIOD:** ___________

Computer Developers: Who Am I?

_____ 1. Pascal

_____ 2. Jacquard

_____ 3. Hollerith

_____ 4. Leibnitz

_____ 5. Babbage

A. Invented the Electric Tabulating Machine in 1886 and used it to record the census.

B. Invented the Difference Engine in 1822. It could compute and print answers.

C. Invented the Stepped Reckoner in 1673. It could multiply and divide.

D. Invented a weaving loom in 1801 that used punched cards.

E. Invented La Pascaline in 1642. It was the first counting machine.

FROM HANDS TO COMPUTER
SAMPLE TEST

Name:________________ Period:______________

CHECK YOUR KNOWLEDGE OF COMPUTER HISTORY

Match the inventors and inventions listed below.

PART I - Early History of Computer Development. Use letters A-G to match the answers in this part.

		INVENTION		INVENTOR
__________	1.	Abacus	A.	William Oughtred
__________	2.	Napier's Bones	B.	Blaise Pascal
__________	3.	Slide Rule	C.	The Chinese
__________	4.	Pascaline Counting Machine	D.	Joseph Jacquard
__________	5.	Mechanical Calculator	E.	Charles Babbage
__________	6.	Weaving loom	F.	John Napier
__________	7.	Difference Engine	G.	Blaise Pascal

Part II - Recent Developments in Computer Technology. Use the letters H-O to match the answers in this part.

__________	8.	Tablulating Machine	H.	Mauchly and Eckert
__________	9.	Mark I	I.	Vacuum tubes
__________	10.	ENIAC	J.	Vannevar Bush
__________	11.	Analog Computer	K.	Transistors
__________	12.	Generation 1	L.	Howard Aiken
__________	13.	Generation 2	M.	Artificial Intelligence
__________	14.	Generation 3	N.	Hollerith
__________	15.	Generation 5	O.	Integrated Circuits

STUDY GUIDE

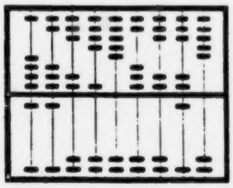
Select Study Sheets and Worksheets from the Study Guide section to provide students with take-home material to reinforce skills learned in class.

Reproduce only those materials that relate to the needs and ability level of the student. Use the Sample Tests to ensure student mastery of the objectives.

FROM HANDS TO COMPUTERS
STUDY SHEETS

NAME:____________________ PERIOD:____________________

HISTORY OF COMPUTERS

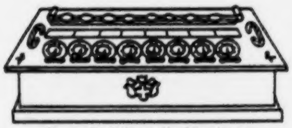


PERIOD 1: MANUAL

3000 B.C. - Abacus - A Chinese frame with beadlike parts moved along rods used to add and subtract.

1617 A.D. - Napier's Bones - Invented by John Napier, the invention was made of strips of wood or bone, side by side were used to multiply and divide

1630 - William Oughtred invented the slide rule.



Pascal's Arithmetic Machine

PERIOD 2: GEAR-DRIVEN MACHINES

1642 - Blaise Pascal designed a counting machine, La Pascaline, that could add and subtract.

1673 - Leibnitz built a machine called the "Stepped Reckoner" that could multiply and divide as well as add and subtract.

1801 - Joseph Jacquard built a loom that had a belt of cards that was able to pick out threads and weave them into patterns.

1822-34 - Charles Babbage's Difference Engine and Analytical Engine designs led later inventors to build what he was only able to create on paper.

PERIOD 3: ELECTRO-MECHANICAL MACHINES

1886 - Herman Hollerith invented a machine that was used to tabulate the U.S Census. The company he founded to make these tabulating machines is known as IBM today.

1930 - Vannevar Bush invented the Analog computer that could do 25 calculations in a few minutes.

1944 - Howard Aiken developed the Digital Computer (Mark I), which was the first electro-mechanical computer.

PERIOD 4: ELECTRONIC COMPUTERS

Generation 1: Vacuum Tubes

Vacuum Tube

1946-58 - ENIAC, the first Electronic computer was invented by Maunchly and Eckert. It had no mechanical parts and operated 1000 times faster than the Mark I.

1949 - EDSAC, the first stored program computer, was invented. The binary code (0's and 1's) was use to correspond to the electronic circuits that were either on or off.

1951 - UNIVAC was developed as the first computer to be sold to businesses.

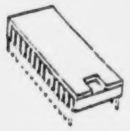
Generation 2: Transistors

Transistor

1954 - Transistors began to replace vacuum tubes, thus making computers much smaller in size

1957 - FORTRAN was developed as the first automatic programming language, eliminating the need to program in machine language.

Generation 3: Integrated Circuits



1963 - BASIC (Beginner's All Purpose Symbolic Instruction Code) was developed to make programming easier.

1964 - The integrated circuit was developed. One integrated circuit was able to replace several thousand second generation transistors.

Generation 4: Large Scale Integration/Very Large Scale Integration (LSI/VLSI)

1970-74 - Inventors began grouping integrated circuit functions on a single chip. This led to the development of the microprocessor.

1975 - The first microcomputer, the Altair 8800, was developed.

- **Generation 5:** Artificial Intelligence

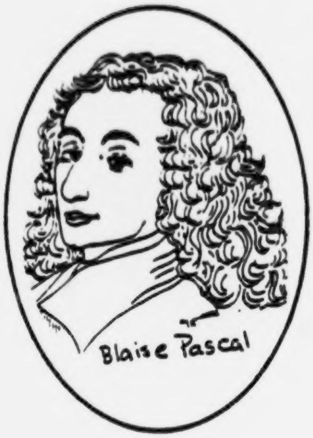
1985 - Experimentation with artificial intelligence begins.

FROM HANDS TO COMPUTERS
STUDY SHEET

A-9

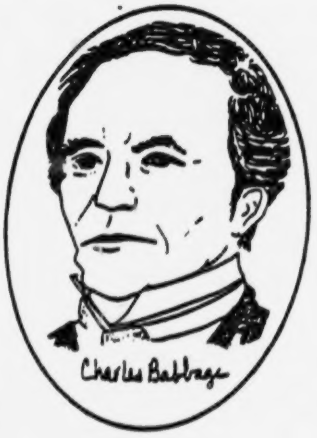
NAME: ______________________________ **PERIOD:** __________

COMPUTER DEVELOPERS: WHO AM I?



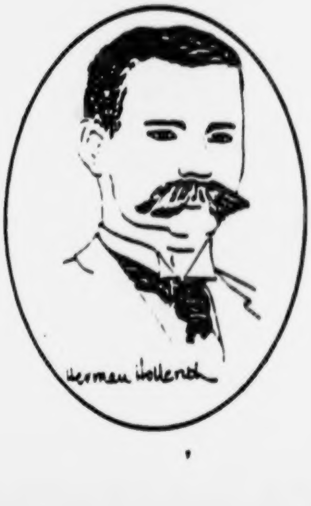
Pascal - invented La Pascaline, the first counting machine.

Leibnitz - invented the Stepped Reckoner, which could multiply and divide.



Jacquard - invented an automatic weaving loom, using punch cards.

Babbage - invented Difference Engine, which computed and printed answers to math problems.

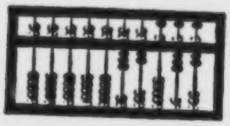


Hollerith - invented the Electric Tabulating Machine, and recorded the 1890 census with punched cards.

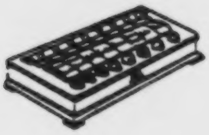
FROM HANDS TO COMPUTER
STUDY SHEET

NAME: ______________________________ **PERIOD:** __________

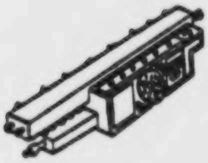
EARLY COMPUTING DEVICES



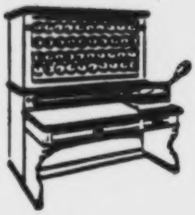
Abacus



La Pascaline

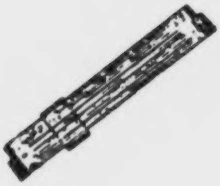


Stepped Reckoner

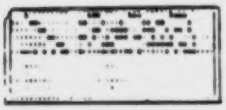


Hollerith's tabulating machine

Slide rule



Punched card



FROM HANDS TO COMPUTERS **A-11**
WORKSHEET

Name:______________________________ Period:___________

COMPUTER DEVELOPERS: WHO AM I?

Directions: The names listed below are important in the history of computers. Use the study sheet to match the name of the person to what he invented and what year it was invented. Then fill in the time line.

_____	1.	Blaise Pascal	a.	1886 - The Electric Tabulating Machine
_____	2.	Leibnitz	b.	1673 - Machine to multiply and divide
_____	3.	Joseph Jacquard	c.	1642 - Counting machine
_____	4.	Charles Babbage	d.	1946 - The first all electric digital computer
_____	5.	Herman Hollerith	e.	1801 - Automatic weaving loom
_____	6.	Howard Aiken	f.	1944 - The first digital computer called the Mark I
_____	7.	Eckert and Mauchly	g.	1823 - A theoretical analytical engine
_____	8.	Vannevar Bush	h.	1930 - A analog computer could do 25 calculations in a minute.
_____	9.	Eniac	i.	1946 - The first Electronic Computer

- -

/____________________/________________________/__________
1642 1673 1801

__________/____________________/____________________/__
1823 1886 1930

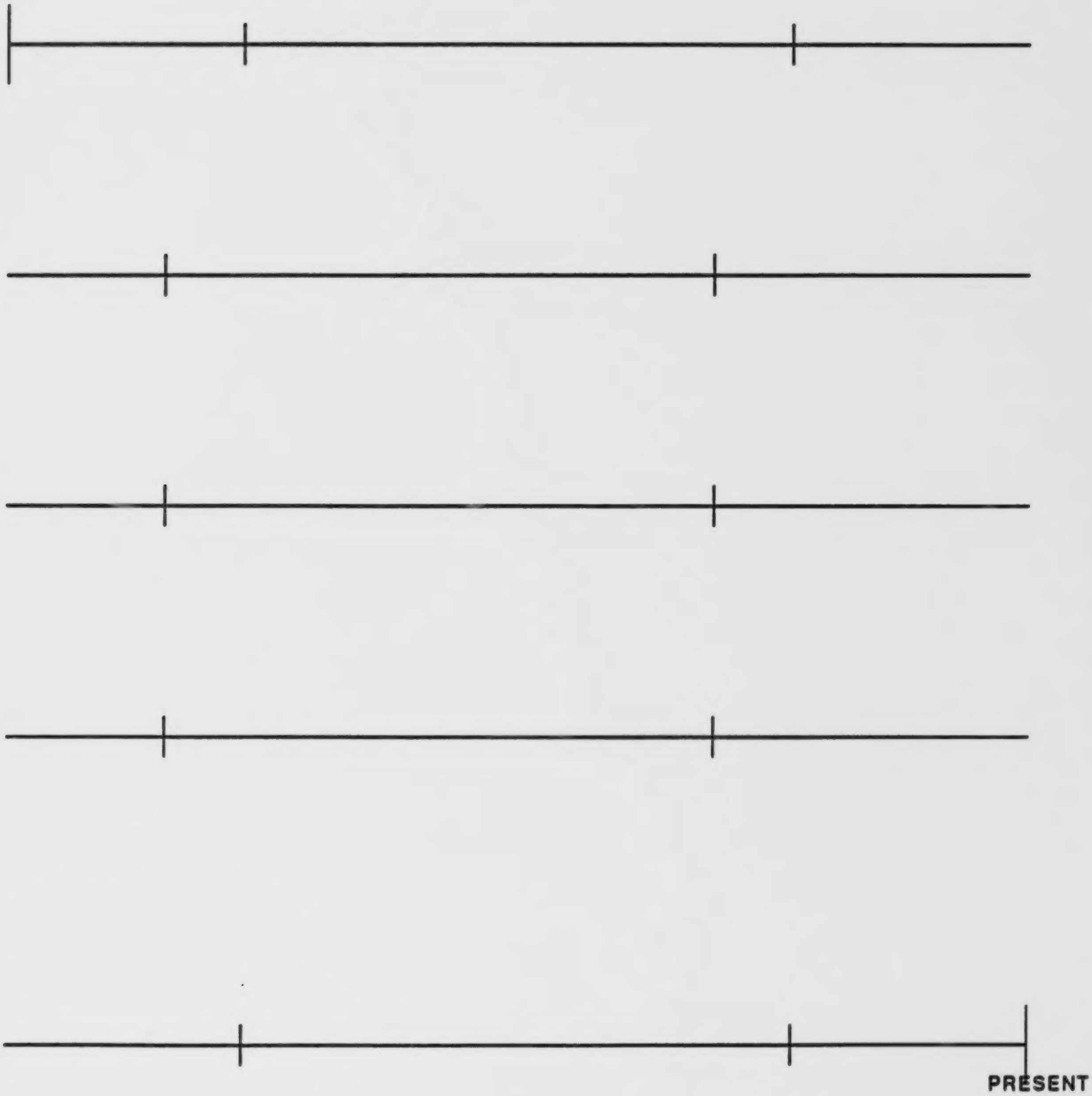
_/____________________/__________
1944 1946 / 1946

FROM HANDS TO COMPUTERS
WORK SHEET

A-12

NAME: ______________________________ PERIOD: __________

COMPUTER TIME LINE



DIRECTIONS: Use the worksheet "History of Computers" OR the worksheet "Computer Developers" to complete the Computer Time Line.

SAMPLE WORKSHEET

NAME: ________________________ PERIOD:__________

WHO AM I?

Directions: Using the Study Sheet entitled "Computer Developers-Who Am I?", fill in the blanks with the correct inventor's name.

1. I recorded the 1890 census with punched cards. Who Am I?

   ____

2. I invented the first counting machine. Who Am I?

   ____

3. My invention could multiply and divide. Who Am I?

   ____

4. I invented weaving looms that used punched cards. Who Am I?

   ____

5. My invention computed and printed answers to math problems. Who Am I?

   ____

(Hint: Use the names below to fill in the blanks.)

Pascal-LaPascaline in 1642
Jacquard-Weaving Loom in 1801
Hollerith-Electric Tabulating Machine in 1886
Leibnitz-Stepped Reckoner in 1673
Babbage-Difference Engine in 1822

PACKET: WHAT A COMPUTER IS AND HOW IT WORKS

INTENDED OUTCOME ADDRESSED IN THIS UNIT:

The student will distinguish between computers and people.

The student will determine whether the use of a computer would be advantageous in performing a given task.

The student will identify one way that computers improve the performance of certain tasks (i.e., speed, accuracy, control and/or repeated operations).

The student will classify a given device as a computer terminal or a stand-alone computer by its current use.

The student will classify a given device as a special-purpose or general-purpose computer by its current use.

The student will distinguish between a mainframe computer and a microcomputer using the following characteristics: (a) initial cost: (b) portability; (c) processing speed; and (d) peripheral support.

INTRODUCTION

This packet contains teacher strategies, study sheets, sample tests and a self-help module for students to take home.

Included in this unit are Textbook Worksheets which are correlated by page and paragraph to the Scholastic Computing textbook. These worksheets have been used successfully with students who have poor reading and study skills. They provide a structured study guide to the information in the textbook. Scholastic Inc. has granted permission to copy these sections of the textbook.

VOCABUALRY

analog
bytes
cartridge
characters
computer
computer software
dedicated
digital
disk
diskette
disk drive
electronic
general purpose
graphics tablet
hardcopy printer
hardware
input unit
k (e.g., 64k)
keyboard
kilobytes
light pen
mainframes
megabytes
memory
microcomputers
microprocessor
mini computers
monitor
output unit
processing unit
programs
silicon
special purpose
terminal
video display terminal

SUGGESTED TEACHER ACTIVITIES

Select appropriate classroom and take home activites needed to implement and reinforce the objective. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your school media specialist, from the Palm Beach County School Board Film Library or from your personal collection.

List **reasons why people would use a computer** to perform certain tasks (i.e., speed, accuracy, repeated performance).

Use Worksheets 1-23, 1-24 and 1-25 to introduce **a contest** with the computer to demonstrate the **speed, accuracy,** and ability of the computer to perform **repeated tasks** without tiring.

Compare **how information can be stored** by both people and computers. Include the advantage and disadvantage of both.

a. Store large amounts of information
b. Retrieve information quickly
c. Solve math problems
d. Draw conclusions from information

List tasks for which it would be **appropriate** to use a computer and tasks that are **inappropriate** for computers. Use Worksheets 1-12 and 1-13.

Pretend to be a **landscape business or beautician owner** who is making a decision about investing in a computer system. Work in groups or as a class to name the tasks you would want the computer to perform. (This requires knowledge or research into basic business operations.)

Keep a log for a period of time listing all encounters with computers.

Discuss the following **differences between people and computers.** Use Worksheets 1-14 and 1-15 to reinforce this knowledge.

a. People are living beings - computers are manufactured electronic machines.
b. Computers calculate at great speeds - people calculate but much slower.
c. People think independently and creatively - computers cannot think independently.
d. People cannot work without getting tired - computers don't get tired.
e. People do not remember everything they are told - computers remember what they are told.

Discuss the **similiarities between computers and people** in terms of input, output, process, control, and memory.

Prepare a **skit** in which a robot is a main character.

Identify the factors that determine **if a piece of equipment is** a computer.

Discuss the relationship between a **computer 'host' and a network** of data terminals.

Identify various examples of **'stand-alone'** computers and discuss their uses (i.e., appliance controllers, personal microcomputers, video-arcade games). Use Worksheet 1-18.

List the characteristics of a **'dedicated,' or 'special-purpose'** computer (i.e., word processing typewriter, appliance controller, video-game machine) and a **general-purpose** computer (i.e., personal computer). Compare and contrast the special-purpose and general purpose computer using Worksheets 1-16 and 1-17.

Identify **your own computer uses.** Determine if your needs can best be met by a special-purpose or a general-purpose computer. State reasons for your choice.

Identify the characteristics of a **mainframe** and of a **microcomputer**. Compare and contrast the characteristics and applications of the two types of computers using Worksheets 1-19, 1-20, 1-21 and 1-22.

Ask the **school data processor** to explain to students how the school system uses main frame computers. Visit the data processing office in your school if possible.

Provide students with copies of the self-help, take-home packet for study and homework.

TEXTBOOK WORKSHEET

NAME: ________________________________ **PERIOD:** __________

CHAPTER 1

Directions: This worksheet accompanies Chapter 1 - What a Computer Is and How It Works, in your textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Fill in the missing information or words according to the specified pages and paragraphs.

Begin on Page 3 (the last paragraph)

1. List four occupations mentioned that use computers to help them do their job.
   a. ____
   b. ____
   c. ____
   d. ____

Page 4

2. The definition of a computer is: an electronic tool that helps people do many different things ______________________________, ________________________, or ______________________. (Paragraph 5)

Page 5

3. .....the airline company uses a computer to help organize its flight __________________ and ______________________. (Paragraph 2)

4. The word DIGITAL has to do with ___________________________ numbers. (Paragraph 4)

5. A __________________ computer solves problems or answers questions by measuring the quantity of something that changes continiously?

6. Where can a simple __________________________ computer be found in every automobile? (Paragraph 5) _____________________
   ____

Page 6

7. ______________________ computers are often large enough to fill a huge room. (Paragraph 4)

8. What government agency uses a mainframe computer?
____ (Paragraph 4)

9. A ____________________ system is often about the size of the
____________________ and ___________________________ in
your kitchen. (Paragraph 5)

10. Many businesses use minicomputers for calculating their employee
_____________________________ or maintaining other employee
______________________. (Paragraph 5)

11. MICROCOMPUTERS are also called "__________________ computers" or "personal computers." (Paragraph 6)

Page 7

12. MICROCOMPUTERS are usually about the size of a
____________________________________ and a small
______________________ ____________________________.
(Paragraph 1)

13. Why does one computer cost less than one hundred dollars, while another computer costs millions of dollars? One of the answers has to do with the amount of ____________________________
(words, numbers, or symbols) that a computer can _____________
inside itself at any one time. (Paragraph 3)

14. The amount of information a computer can store is called simply,
________________________. (Paragraph 3)

Page 8

15. 64K memory means the computer can store approximately
_______________________ letters, numbers, or symbols. (Para. 1)

16. The amount of memory a computer has is measured in
____________________. (Paragraph 2)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Page 8

17. The term KILOBYTES stand for ______________________, so 1K of information is equal to approximately __________________ numbers, letters or symbols. (Paragraph 3)

18. A _________________ computer is ___________________ programmed--given instructions--to handle __________________ particular kind of task. (Give two examples of this kind of computer. __________________ and ____________________) (Paragraph 5)

Page 9

Extra Credit:
Find the Answers to the **Checkpoint** questions within Chapter 1 and record your answers here.

19. What kind of computer is designed to handle one specific kind of task?
____

20. What is the name of a tiny computer often found in home appliances?
____

21. How do the size and cost of a minicomputer differ from those of a
   a. mainframe computer: ______________________________
   b. microcomputer__________________________________

Page 12

22. The parts of the computer that you see are called ______________. It is the term used to describe the physical components of a system--the parts you can _________________ and _________________. (Paragraph 2)

23. An _______________________ unit is used to ____________________ instructions or information into a computer's memory. (Paragraph 4)

24. The most common input unit for microcomputers is a ____________ -like keyboard. (Paragraph 4)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Page 12

25. Another common input unit for a microcomputer is called a
____________ ____________.
(Paragraph 5)

26. A ____________ drive "____________" information that is stored on a flat, circular object called a ____________, or disk for short, and then sends the information into the computer's ____________.
(Paragraph 5)

27. A third input unit is an ordinary audio cassette player. It reads and sends information from an ordinary cassette ____________.
(Paragraph 5)

28. The ____________ UNIT is where the computer does all of its ____________. (Paragraph 7)

29. In fact, the PROCESSING UNIT is the ____________ "computer". (Paragraph 7)

30. The processing unit of a microcomputer is built on a tiny ____________ of a subtance called ____________.
(Paragraph 8)

31. This silicon chip is called a ____________.
(Paragraph 8)

32. In order for the computer to show the results of the work done by the computer, the computer needs an ____________ unit. (Paragraph 9)

Page 14

33. One kind of output unit looks like an ordinary TV set, and is called a ____________. (Paragraph 1)

34. This is also called a VIDEO DISPLAY TERMINAL or a CRT
(____________ ____________
____________). (Paragraph 1)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Page 14

35. Another output unit is called a HARD-COPY ______________________________. It produces a printout of the computer's work on __________________________. (Paragraph 2)

36. _________________________ drives and _______________________ recorders are also output units, since you can use them to store and save the work that the computer has done. (Paragraph 2)

37. The INSTRUCTIONS or _____________________________ that tell a computer what to do come in different forms. (Paragraph 5)

38. Some programs are _____________________________ into the computer. Other programs are ________________________ into a computer on a keyboard. Still other computer instructions are "fed" into the computer from a ________________________________ or _____________________, or some other form. (Paragraph 5)

Extra Credit

Find the anwers to the **Checkpoint** questions within Chapter 1, pages 12 to 14, and record your answers here.

39. What do you call a device that is used to put information into a computer? ____

40. Where does a computer do all of its work?

____

41. What is another name for a CRT?

____

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

WHAT A COMPUTER IS AND HOW IT WORKS
SAMPLE TEST

NAME:____________________ PERIOD:____________________

CAN COMPUTERS IMPROVE THE PERFORMANCE OF CERTAIN TASKS?

DIRECTIONS: Circle **T for TRUE** or **F for FALSE** in each of the following statements.

T F 1. The computer can solve addition problems in **a short amount of time.**

T F 2. The computer can decide how to spend **your money**.

T F 3. The computer can alphabetize names in **a short amount of time.**

T F 4. The computer sometimes **feels** very lonely.

T F 5. The computer can be used **to analyze** the opposing team's strategy in a football game.

T F 6. The computer can work all day and all night and **never get tired.**

T F 7. The computer can be used **to control** traffic lights so the flow of traffic will move smoothly.

T F 8. In a toy factory, the computer can make a certain part **over and over.**

T F 9. At a gas station, a computer can **control** the amount of fuel being pumped into a car.

T F 10. The computer can write an **original** short story for the school newspaper.

WHAT A COMPUTER IS AND HOW IT WORKS
SAMPLE TEST

NAME:____________________ PERIOD:____________________

ADVANTAGES OF COMPUTERS

DIRECTIONS: Put an **X** on the line in front of each statement where it would be advantageous to use a computer.

____1. Riding a bicycle

____2. Typing a science report

____3. Storing information about criminals at a police station

____4. Answer the door when the doorbell rings

____5. Plan a menu for dinner

____6. Making airplane reservations

____7. Making address labels for your holiday cards

____8. Watch TV

____9. Using the Automatic Teller Machine at any time of the day

____10. Drill and practice for a test

____11. Talking on the telephone

____12. Making out the payroll for a large company

WHAT A COMPUTER IS AND HOW IT WORKS
SAMPLE TEST

NAME:____________________ PERIOD:____________________

CHECKING YOUR KNOWLEDGE OF TYPES OF COMPUTERS

DIRECTIONS: Circle **T for TRUE** or **F for FALSE** for each sentence below.

T F 1. A **mainframe** computer is important because it has **more memory.**

T F 2. A **microcomputer** can sit comfortably on a desk.

T F 3. As computers **decrease in size** they **increase in cost**.

T F 4. A **microcomputer** can perform **more operations per second** than a **minicomputer.**

T F 5. A **mainframe** computer is about the **size** of a refrigerator or stove.

T F 6. An **analog** computer solves problems or answers questions.

T F 7. Information is translated into a **series of numbers** by a **digital** computer.

T F 8. A **mainframe** computer would be the best choice for **classroom** use.

T F 9. A **microcomputer** would be the best choice for a **small business** to store transactions.

T F 10. A **digital watch** is an example of a **general purpose computer.**

T F 11. A **pocket calculator** is an example of a **dedicated** computer.

T F 12. An **IBM PC** is an example of a **general purpose** computer.

T F 14. An IBM **Memory typewriter** is an example of a **dedicated** computer

NAME ________________________________ **PERIOD** __________

Don't Be Ridiculous!

While the computer can do many things, it cannot do everything. Tell whether it would be possible or ridiculous for a computer to do these things by placing an X on the correct line.

A computer can be used to:	**Possible**	**Ridiculous**
1. Walk the dog	_____	_____
2. Add long columns of numbers	_____	_____
3. Make a pizza	_____	_____
4. Analyze and break a secret code	_____	_____
5. Alphabetize a long list of names	_____	_____
6. Help diagnose an illness	_____	_____
7. Write a thank you note	_____	_____
8. Time traffic lights	_____	_____
9. Monitor space flight	_____	_____
10. Manage inventory	_____	_____
11. Store phone numbers	_____	_____
12. Make a sad person feel happy	_____	_____
13. Exercise your leg muscles	_____	_____
14. Turn on the lights in your home	_____	_____
15. Sing a rock song	_____	_____
16. Organize information	_____	_____
17. Type a report	_____	_____
18. Make a graph	_____	_____
19. Make a sign	_____	_____

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NAME ______________________________ **PERIOD** __________

That's Why We Use Computers!

For each computer task below, indicate the advantage that computers provide. Is it speed? Is it accuracy? Is it control? Is it repetition? Place an X on the line to show your answer. You may mark more than one answer for each task.

		Speed	Accuracy	Control	Repetition
1.	Calculating your weekly paycheck	____	____	____	____
2.	Printing your weekly paycheck	____	____	____	____
3.	Recording your math grades	____	____	____	____
4.	Figuring your final grade in science	____	____	____	____
5.	Keeping track of your attendance	____	____	____	____
6.	Keeping track of inventory	____	____	____	____
7.	Scanning UPC Codes at the grocery	____	____	____	____
8.	Totaling the sale of five compact disks	____	____	____	____
9.	Calculating complex mathematical problems	____	____	____	____
10.	Grading objective tests	____	____	____	____
11.	Recording and analyzing scientific data	____	____	____	____
12.	Launching a rocket	____	____	____	____
13.	Printing overdue notices for library materials	____	____	____	____
14.	Printing final transcripts for an entire senior class	____	____	____	____
15.	Sorting thousands of addresses by ZIP code	____	____	____	____
16.	Printing out lengthy written reports				

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STUDY GUIDE

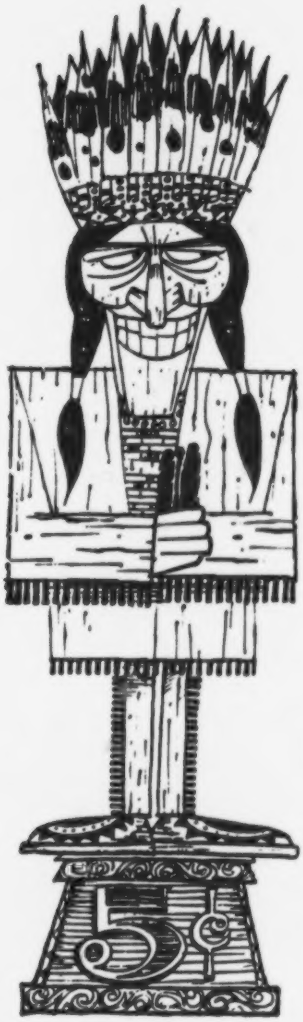
Select Study Sheets and Worksheets from the Study Guide section to provide students with take-home material to reinforce skills learned in class.

Reproduce only those materials that relate to the needs and ability level of the student. Use the Sample Tests to ensure student mastery of the objectives.

NAME:____________________ PERIOD:____________________

COMPUTERS AND PEOPLE - DO YOU KNOW THE DIFFERENCE?

Directions: Read the following sentences. Put a C in the blank, if a **computer** can do the task. Put a P in the blank, if a **person** must do the task or put a B if both the computer and people can do the task.



____1. I can sign a mortgage to buy a house.

____2. I can print many documents very neatly all day long.

____3. I can daydream.

____4. I can solve 50 math problems in less than a minute.

____5. I can eat fast foods.

____6. I get tired.

____7. I can play soccer.

____8. I **always** follow directions.

____9. I can think creative ideas.

____10. I can remember many different long lists of things.

WHAT A COMPUTER IS AND HOW IT WORKS WORKSHEET

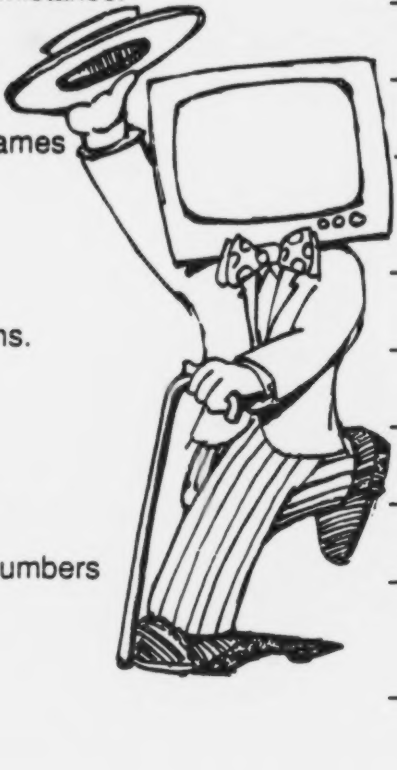
1-15

NAME:____________________ PERIOD:____________________

PEOPLE, COMPUTERS OR BOTH

DIRECTIONS: People are like computers in some ways, but in other ways they are different. For each of the statements below, decide if it is true of people, of the computer, or both people and computers. Write in **people, computer** or **both.**

1. Gets bored doing repeated tasks. ____________
2. Has input devices. ____________
3. Moves about freely. ____________
4. Never makes careless mistakes. ____________
5. Sometimes gets angry ____________
6. Can alphabetize 100 names very quickly ____________
7. Has a memory. ____________
8. Always follows directions. ____________
9. Never gets tired. ____________
10. Has a sense of humor. ____________
11. Solves problems with numbers and words. ____________
12. Can have good ideas. ____________



NAME:____________________ PERIOD:____________________

SPECIAL OR GENERAL PURPOSE COMPUTERS

A special-purpose computer is permanently programmed to do only one particular kind of task. The microprocessor inside your digital watch is a special-purpose computer. It can also be called a dedicated computer. Like the microprocessor in a microwave oven it is dedicated to controlling the operations of that one product.

General-purpose computers are made to do any task required. This can be done by changing the application. The application is in the main memory. An example of a general-purpose computer is a personal computer.

DIRECTIONS: Classify each of the following examples as appropriate for a general-purpose or special-purpose computer activity. **Mark a G** for the general-purpose computer examples. **Mark an S** for the special-purpose computer examples.

______1. a word processor

______2. a personal computer in your home

______3. A BASS ticket outlet terminal

______4. a video-arcade game

______5. a micro-processor inside a digital watch

______6. a computer that controls the air conditioner in your school

______7. a microcomputer in a computer lab in your school

______8. microwave oven

NAME ________________________________ **PERIOD** __________

Dedicated or General Purpose?

Read each example below and tell if you think it represents a general purpose computer or a dedicated computer by placing an X in the correct box.

		Dedicated	General Purpose
1.	The check-out terminal in the grocery store	☐	☐
2.	The microcomputer in someone's home which is used for writing letters, maintaining income tax records, and playing games	☐	☐
3.	The microwave's computer chip	☐	☐
4.	The travel alarm clock's computer chip	☐	☐
5.	An IBM computer	☐	☐
6.	A computerized system for controlling the lights in your home	☐	☐
7.	A computerized home security system	☐	☐
8.	A computer in your car	☐	☐
9.	An Apple computer	☐	☐

In your own words, define a **dedicated** computer:

In your own words, define a **general purpose** computer:

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WORKSHEET

NAME:____________________ PERIOD:____________________

COMPUTER TERMINALS OR STAND-ALONES

COMPUTER TERMINAL - a monitor and keyboard that connect to a host computer that may be located elsewhere.

STAND-ALONE COMPUTER - a computer that is self-contained. It has a monitor, keyboard and CPU.

DIRECTIONS: Classify each of the following as either a **computer terminal (T)** or a **stand-alone computer (S).**

1.______ A personal computer in your home not connected to any outside equipment.

2.______ An appliance controller such as an ice-maker in a refrigerator.

3.______ A CRT and keyboard at an airport that makes reservations through headquarters in another city.

4.______ A video-arcade game.

5.______ A word processor that is not connected to an outside computer.

6.______ The school board computer that transfers student data to Tallahassee.

WHAT A COMPUTER IS AND HOW IT WORKS **1-19**
STUDY SHEET

NAME:____________________ PERIOD:____________________

Computers come in many sizes and shapes.

Mainframe Computers are large computers when compared to micros. Mainframes are about the **size of a large door** and store enormous amounts of information. Some can **cost more than a million** dollars. The telephone company can use a mainframe computer to keep records of customers' long distance calls. The navy can use a mainframe to keep track of the location and destination of its ships and submarines. The school board can use a mainframe to keep track of student grades and attendance. Most mainframe computers are **programmed with specific software to a dedicated task.**

The microcomputer is often referred to as a **"personal" or "home"** computer. It can easily **sit on a desk** or table and can be used for many **different functions** depending on the software that is loaded into memory. People use microcomputers for word processing, educational programs, recreational games, data management and other applications. Microcomputers **vary in cost from a few hundred dollars** to a couple of thousand dollars. They are normally used by one person at a time.

STUDYSHEET

NAME:____________________ PERIOD:____________________

TYPES OF COMPUTERS

Computers can be classified many different ways including type of processor, size, cost, memory and use. Below are some of the vocabulary words used to classify some types of computers. WARNING! Computers change everyday. The information about computer sizes and cost changes very quickly as new technology is invented!

Computers can be classified by the way they process information.

analog computer - solves problems or answers questions by measuring changes (example: speedometer)

digital computer - translates information into a series of numbers

Computers can be classified by their size, cost, memory and speed.

Mainframe

1. about the size of a large door
2. costs $500,000 and up just for the CPU
3. 4-16 megabytes of memory
4. up to 80,000,000 operations per second
5. can be accessed by several hundred users at one time
6. are designed for expandability through peripherals

Minicomputer

1. CPU is about the size of a microwave oven
2. costs from $20,000 - $100,000
3. memory from 700 KB
4. 1,500,000 operations per second

Microcomputers

1. sits comfortably on a desk
2. costs from $100 - $5000
3. 64K - 700K memory
4. 500,000 operations per second

Computers can also be classified by their function or use.

A special-purpose or dedicated computer is permanently programmed to perform specific task (Examples: digital watch, microwave oven).

A general-purpose computer is a computer that can be programmed to handle many different kinds of tasks.

A stand alone computer must have input, memory storage, and output.

A terminal computer connects to a host computer that may be located elsewhere.

NAME ________________________________ PERIOD __________

Two Sizes of Computers

Complete the chart below to help you compare two sizes of computers--mainframes and microcomputers. Use the worksheet entitled "Two Sizes of Computers".

	Microcomputer	Mainframe
Cost		
Weight		
Size		
Speed		
Memory		
Number of Users		
Peripheral Devices Available		
Uses		

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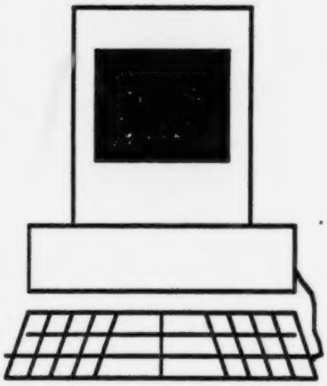
WHAT A COMPUTER IS AND HOW IT WORKS **1-22**
WORK SHEET

NAME: ______________________________ **PERIOD:** ________

TWO SIZES OF COMPUTERS

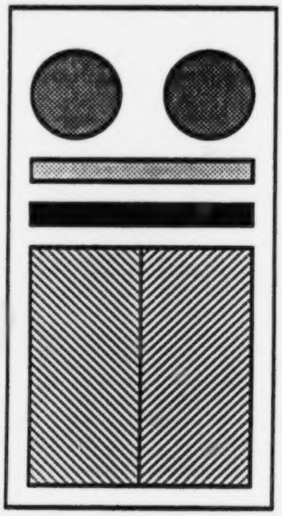


Only $1199.00

PERSONAL COMPUTER PS/808

720K MEMORY - FASTEST PROCESSING SPEED

The new PS/808 features 640K and a built-in 3 1/2" disk drive with processing speeds six times faster than previous models. This convenient table-top system weighs only 31lbs but gives you versatility for multiple uses. Seven ports and twelve programmable special function keys along with expandable RAM and a high resolution monitor. The package includes three integrated software application programs: word processing, spread sheet and data base. There is an option for five user-accessibility. Built-in features and easy-to-use software make this the BEST BUY!



16 Meg Mainframe CPU Sale
only $730,000

The new dual processing 16 megabyte CPU now comes in a compat version only 8'x4'. A large number of peripherals including disk drives, printers and teleprocessing equipment are available to make your computer into a unique, versatile system that can be accessed by more than 300 customers at one time. Software programming is available to customize the unit to the specific application required by your company. Call: 123-4567 today!

NAME:____________________ PERIOD:____________________

WHO IS FASTER? THE COMPUTER OR YOU?

DIRECTIONS: Work the multiplication problem below and record the time you took to complete it. Show your work.

9786
X5819

1. Time required: _____________ minutes _____________ seconds
2. Correct answer: _________________________
3. Check your answer with the teacher. Was your answer correct?
   ____
4. How long do you think a computer would take to solve this problem?
   ____

Extra Credit

Modern computers can do about 1 million problems in 1 second! It is hard to imagine how fast that is but let's try. Suppose you had to do 1 million problems like the one above using only pencil and paper. **If you could do 60 problems in one hour**, how long would it take you to do a million problems?

- A. In one (8 hour) work day, I could do ______ problems.
  (multiply 8 hours x 60 problems per hour)
- B. In one (5 day) work week, I could do________ problems.
  (multiply the answer to A. by 5 work days)
- C. In one (50 week) work year, I could do _____ problems.
  (multiply the answer to B. by 50)

Therefore, 1 million problems would take me about
____________ years!!!

(divide the answer to C. into 1,000,000 and round the
answer to nearest numbers of years)

WHAT A COMPUTER IS AND HOW IT WORKS **1-24**
WORKSHEET

NAME:____________________ PERIOD:____________________

ACCURACY AND REPEATED PERFORMANCE

Computers can do some things better than people can. Computers have the ability to perform certain tasks more accurately and will repeat the same task over and over again without tiring.

Directions: Write the name of your school on each of the lines below. Time yourself to see how long it takes.

____

____

____

____

____

____

How long did it take you?

Type the following BASIC program into the memory of the computer.

```
10 FOR N = 1 to 10
20 PRINT    "the name of your school"
30 NEXT N
40 END
```

Run the program. How long did it take the computer to write the name of your school ten times?____

Did you find the task boring?__________Was your handwriting as neat as the computer's ?____________________

WHAT A COMPUTER IS AND HOW IT WORKS
WORKSHEET

NAME ________________________________ **PERIOD** ______

Sample BASIC programs

DIRECTIONS: Type these programs into the memory of the computer. Be sure that you are in BASIC when you begin to type. These programs provide simple instructions that make the computer perform a specific task.

- -

This program will count from 1 to 10 and print "Here I come, ready or not!" When you RUN the program, can you count to ten out loud and say "Here I come, ready or not!" **before** the computer finishes printing the message?

____

```
10 FOR N = 1 to 10
20 PRINT N;
30 NEXT N
40 PRINT "HERE I COME, READY OR NOT!"
```

This program will do the five (5) multiplication tables beginning with 0 and ending with 12. Can you write the five multiplication tables as fast as the computer? ____________

```
10 PRINT "FIVE MULTIPLICATION TABLES"
20 FOR A = 0 to 12
30 PRINT A; " X 5 =" A*5
40 NEXT A
50 END
```

(Note: * is the computer symbol for multiplication)

PACKET: COMPUTERS IN OUR LIVES

INTENDED OUTCOME ADDRESSED IN THIS UNIT:

The student will identify major historical developments that led to present day computer technology.

The student will identify an example of computer application in at least five (5) of the following areas: (a) medicine and health care; (b) education and training; (c) law enforcement and criminal justice; (d) engineering and design; (e) business and banking; (f) transportation and traffic control; (g) defense systems; (h) the home; (i) government and politics (j) weather prediction; (k) the library; (l) manufacturing; (m) the creative arts; (n) publishing; and (o) public utilities (telephone and power plants).

INTRODUCTION

This packet contains teacher strategies, study sheets, sample tests and a self-help module for students to take home.

Included in this unit are Textbook Worksheets which are correlated by page and paragraph to the Scholastic Computing textbook. These worksheets have been used successfully with students who have poor reading and study skills. They provide a structured study guide to the information in the textbook. Scholastic Inc. has granted permission to copy these sections of the textbook.

VOCABULARY

automatic teller machine
census
computer-assisted design (CAD)
computer-assisted manufacture (CAM)
electronic funds transfer
FOSDIC
inventory
optical character recognition
optical mark reader
robot
scanner
telecommunications
UNIVAC
Universal Product Code (UPC)
wand or wand reader
peripherals

SUGGESTED TEACHER ACTIVITIES

Select appropriate classroom and take home activities needed to implement and reinforce the objective. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your school media specialist, from the Palm Beach County School Board Film Library or from your personal collection.

Visit a computer store. Have a **list of questions** to ask the store manager about computers, e.g., What model of computer is sold the most? What do buyers say they are going to use their computers for? What types of **peripherals** do people like to buy?

Take a **survey of students** who have computers at home. What types of computers do they have? What do they use the computers for? Survey students to see whose parents use computers in their work. What kind of jobs do they have?

Work in groups to **brainstorm uses of computers at home, school and business.** Make a list for each category.

Make a **survey of people's** uses of computers in the areas of home, school and business. Make a chart of the results.

Discuss and **list on the board** or overhead **ways students have seen computers** used at home, in their neighborhood, in business, on television programs, and at school.

Invite special **guest speakers** to talk about different uses of computers.

Make a **scrapbook of computer generated materials,** such as bills, bank statements, and letters.

Show the SVE sound/filmstrip Impact of Computers available at FDLRS/Alpha for preview. Discuss the contents.

Define and discuss the two vocabulary words, **drill** and **practice.**

> Explain why we need to practice things. (It helps us become better at whatever we are doing).
>
> Have students give examples of what things they practice doing.
>
> a. Baseball
> b. Swimming
> c. Math
> d. Writing
>
> Have a student load and run a drill and practice software program.
>
> Show the students how this program helps us in practicing skills.
>
> Ask students if they need this type of program to increase their skills.

Show the Center for Humanities slide/tape presentation entitled: At Home with the Computer: What Can I Do for You? available at FDLRS/Alpha for preview. Discuss the different things the computer did in the slide/tape presentation.

Design a newspaper ad to "sell" a computer for home use, or business use.

Have each student **write a letter to his/her parent** about how computers are being used in their school. (Use a word processor).

Make a **list of words** students hear that are part of the new **computer "slang!'**

Discuss or write what **you would want a 'home robot'** to do if you could make one.

Define and discuss the word, **entertainment.** List ways that you are 'entertained' at home (e.g., toys, T.V., activity with family, play with friend). How can a computer 'entertain' you?

Interview someone working in a large supermarket **about the UNIVERSAL PRODUCT CODE.** Write the information in a report or tell the class what you learned.

Ask students **to bring a label in from a grocery store** item with the Universal Product Code (UPC) marking on it. Have students keep the code in a scrapbook.

Discuss **different careers** and **how they have changed** because of computers (e.g., grocery store check-out; assembly line work to make cars)

Write down **five (5) of the career areas** and list on the chalkboard, overhead or posters some ways that computers are used in each area, e.g.,

TRANSPORTATION

traffic lights
airline traffic control
train traffic control
new cars have circuit board components

Visit your **school media center.** Look for books on different careers. Find some books that include computer uses as a necessary skill. Share these books with the class. (Note: Books meeting the criteria will have recent copyright dates).

Lead a discussion on **computer applications in several career** areas listed above.

Invite **computer users to visit your classroom** and share their knowledge with your students. Jobs that often involve computers include: accountant, architect, auto mechanic, banker, bookkeeper, business owner, city planner, designer, financial planner, librarian, lawyer, hotel clerk, physician, police investigator, stockbroker, and travel agent.

Find **pictures in periodicals** that show computers used in various areas. Mount the pictures and write a description for each.

Make a poster of **newspaper and magazine ads and articles** about computers.

Write reports on computer use in various areas. Use a word processor to have students complete this assignment.

Provide students with copies of the self-help, take-home packet for study and homework.

COMPUTERS IN OUR LIVES **2-4**
TEXTBOOK WORKSHEET

NAME:______________________________**PERIOD:**__________

CHAPTER 2

Directions: This worksheet accompanies Chapter 2 - Computers in Our Lives, in your textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Fill in the missing information or words according to the specified pages and paragraphs.

Begin on **Page 19**

1. NASA officials controlled the __________ and then __________ the space flight. (Paragraph 1)

2. The Department of Health and Human Services uses computers to maintain information about senior citizens who are eligible for __________________ ___________________ benefits. (Paragraph 2)

3. In the Treasury Department, the IRS uses computers to check individual _________________ ___________________ returns and to send tax _________________ to millions of people each year. (Paragraph 2)

4. The FBI uses computers to keep detailed information about crimes and known _______________. (Paragraph 2)

Page 21

5. The National Meteorological Center's computers incorporate more than 100, 000 daily weather ____________________ from around the ______________________. The computers use these reports to produce "models": of the atmosphere, which help forecasters ______________________ the weather. (Paragraph 2)

Page 22

6. Computers help with planning ________________________, paying employees, controlling ______________________, and maintaining ______________________ of all kinds. (Paragraph 1)

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN CHAPTER 2 AND RECORD YOU ANSWERS HERE.

7. Name the first commercially available electronic computer. By what agency of the US government was it used?

   ______________________________ ____________________

8. What does FOSDIC stand for? How is FOSDIC used?

   ___________________ ______________

9. What is one way that the National Weather Service uses computers?

   ____

Page 23

10. The system for moving credit electronically from one account to another is called __________ ______________________ ______________________ (EFT). (Paragraph 3)

Page 24

11. List three advantages given if all businesses used EFT systems for paying employees. (Paragraph 1)
    1. ____
    2. ____
    3. ____

12. To check a customer out at the cash register, you just pull the product over this piece of ______________________. The price is _________________________ recorded on a paper receipt. (Paragraph 3)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Page 25

13. The "piece of glass" Greg is talking about is actually an
____________ ____________ reader
or ____________. (Paragraph 1)

14. You have probably noticed those black ____________
on food products you buy at the grocery store. The bars are part of a
code known as the ____________
____________ Code. (Paragraph 1)

15. The ability of the optical mark reader to read the bar codes is the
result of a special technology called ____________
____________ ____________. (OCR) (Paragraph 3)

16. Today many large department stores and other retail establishments
use ____________ to record information about your
____________. (Paragraph 3)

17. The OCR machines do three things for a supermarket. List them.
(Beyond helping clerks do their jobs faster and easier.)
1. ____________
2. ____________
3. ____________

Page 26

18. Most major banks today have ____________ teller
machines. (ATMs) (Paragraph 2)

19. Name three services that the ATM can provide you. (Paragraph 3)
1. ____________
2. ____________
3. ____________

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN CHAPTER 2 AND RECORD YOUR ANSWERS HERE.

20. What do the letters EFT stand for? How is this system used?
____

21. What technology makes it possible for a device to read information from bar codes or merchandise sales tags?
____

22. What is an ATM and where would you find one?
____

Page 28

23. The use of the computer to design products is called
____
____ design (CAD).
(Paragraph 2)

24. The use of a computer to manufacture products is known as
_______________________ -assisted
_________________________________ (CAM). (Paragraph 2)

25. CAD/CAM technology is used to design and manufacture
________________________________ or parts to replace hips,
___________________________________, and elbows. (Paragraph 3)

26. CAD/CAM aids in the design and manufacture of everything from
________________________ to __________________________
equipment to children's ____________________. (Paragraph 6)

Page 29

27. Today, more and more factories are using ________________________
to do work that human beings once did. (Paragraph 4)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

28. The use of robots for certain jobs has a lot of advantages. List 4 of them from Paragraph 6.
    1. ________________________________
    2. ________________________________
    3. ________________________________
    4. ________________________________

29. Some people feel that the widespread use of robots is a ____________________ idea because it will put too many people out of ____________________. (Paragraph 7)

Page 30

30. The robots themselves will create four new kinds of jobs. List them from Paragraph 1.
    1. ________________________________
    2. ________________________________
    3. ________________________________
    4. ________________________________

31. From Paragraphs 4 & 5 list three items a computer printout can tell a farmer about his cows.
    1. ________________________________
    2. ________________________________
    3. ________________________________

Page 31

32. List three other ways computers are at work in our lives. (Paragraph 3)
    1. ________________________________
    2. ________________________________
    3. ________________________________

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 28-31 AND RECORD YOUR ANSWERS HERE.

33. What does CAD/CAM stand for?______________________________

34. Explain two advantages of using industrial robots. Why do some people think the use of robots is a bad idea?
    a. ____
    b. ____

35. Explain one way that computers can be used on a farm.
    ____

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

COMPUTERS IN OUR LIVES **2-9**
SAMPLE TEST

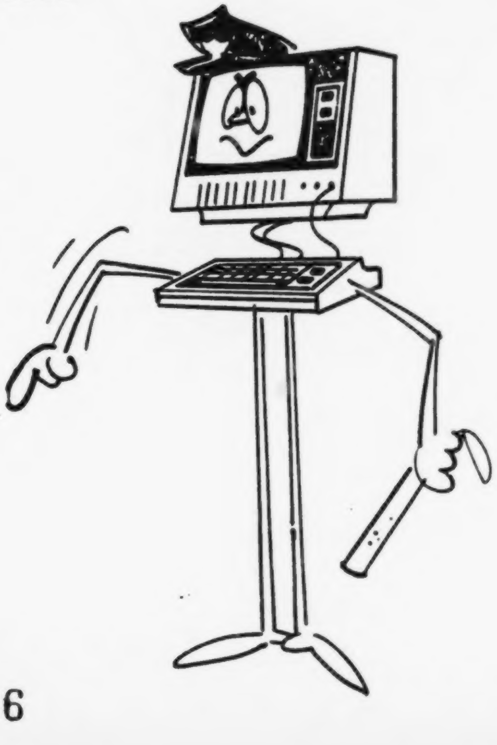
NAME:____________________ PERIOD:____________________

For each computer area listed, match the best two (2) uses for that area. Use each computer use only 1 time.

COMPUTER AREA	COMPUTER USES	
1. Business	________	________
2. Communication	________	________
3. Medicine	________	________
4. Home	________	________
5. Law Enforcement	________	________
6. Education	________	________
7. Arts	________	________
8. Transportation	________	________

COMPUTER USES

A. Connect telephone calls
B. Doing laboratory workups
C. Play video games
D. Making plane reservations
E Drill and practice
F. Control temperatures in the kitchen
G Sort mail by zip codes
H Composing music
I. Inventory of stock
J. Monitoring traffic
K. Monitoring vital signs of patients
L. Storing information on criminals
M Payroll
N Testing
Q Tracking stolen cars
P. Commercial drawing



NAME:____________________ PERIOD:____________________

COMPUTER APPLICATIONS

DIRECTIONS: The following is a list of examples of computer applications. Identify which application (**home, school, or business**) each item is used for. Write your answer on the line provided.

1) Your personal checking account ____________________

2) A history report ____________________

3) Flying an airplane ____________________

4) Payroll ____________________

5) A recipe file ____________________

6) Solve arithmetic problems ____________________

7) Microwave oven controls ____________________

8) Household budget ____________________

9) Drill and practice ____________________

10) A scanner at the check-out counter at the grocery store ____________________

STUDY GUIDE

Select Study Sheets and Worksheets from the Study Guide section to provide students with take-home material to reinforce skills learned in class.

Reproduce only those materials that relate to the needs and ability level of the student. Use the Sample Tests to ensure student mastery of the objectives.

COMPUTERS IN OUR LIVES **2-11**
STUDY SHEET

COMPUTER APPLICATIONS

Below are some examples of the ways people use computers.

Business	Computers keep track of inventories, orders and customers.
Creative Arts	Computers keep track of reservations for plays and concerts.
Defense	Computers launch missles and protect the nation from attack.
Education	Computers keep track of grades and attendance as well as helping students learn in school.
Engineering	Computers help with the calculations in designing buildings.
Government	Computers keep track of voting, laws, taxes and the budget.
Home	People use computers to do budgets, to type reports and for entertainment.
Library	Computers keep track of all the books and who checks them out.
Manufacturing	Computers operate the machines that make things for us. They keep track of their inventories and send orders to the stores.
Medicine	Computers monitor patients in hospitals, keep track of perscriptions and reports.
Police	Computers keep track of crimes and accidents.
Public Utility	Computers keep track of how much water and electricity is being used.
Publishing	Computers operate machines that print newspapers, magazines and books.
Transportation	Computers keep track of bus and train routes, control traffic lights, and help planes take turns landing.
Weather	Computers record and track storms and changing weather conditions.

NAME ______________________________ PERIOD ________________

COMPUTER-ASSISTED VOTE FOR THE HOUSE

Members of the United States House of Representatives use an electronic system to record their legislative votes. There are forty-four voting stations attached to the backs of chairs located throughout the House chambers. Yea votes are recorded with a green button. Nay votes use a red button. An amber button can indicate attendance but no vote. On the electronic device there is also a blue light to tell the Congressman that the station is open and ready for use.

Members cast their votes by inserting their voting card which is also their official identification into the slot at any station. After inserting the card, they press the desired button, Yea or Nay. The vote is displayed and then verified by the Member who cast it.

When voting is declared final by the Speaker, the results are compiled by the computer and sent to a printer. Hardcopy is made for distribution to the members of the House.

This system has helped to make voting in the House faster and more efficient.

COMPUTERS IN GOVERNMENT

DIRECTIONS: Read the article to the left and answer the following questions.

1. The green light tells Congressmen that they have voted NAY.

   True False

2. There are more than 450 members of House of Representatives. All of them can vote at the same time.

   True False

3. Anyone can make use of the electronic voting device.

   True False

4. If a Congressman wishes, he can show a "no vote" by pushing an amber light which indicates he is present.

   True False

5. The electronic voting devices are more efficient than the old ways of voting.

   True False

NAME: ______________________________ PERIOD: ________

I Can Do That!

Below are some ways that people might "talk" to a computer. Put an **X** in the box next to each one you think the computer can understand and do.

☐ 1. Janet shouted at her computer, "I told you to add those numbers, not subtract them!"

☐ 2. Bill typed into the keyboard, "Tie my shoes, computer!"

☐ 3. Miss Jenkins whispered to her computer, "Can you please tell me which students were absent today?"

☐ 4. Roberta typed a letter into the computer using the keyboard and then typed in some computer-language commands to tell the computer to print her work.

☐ 5. Bob put a disk into the computer, closed the disk drive door, and waited patiently for the program to load. Then he played the computer game, following the directions on the screen.

☐ 6. Mrs. Olson put her checkbook on the keyboard so the computer could figure out how much money she has left.

☐ 7. Jeremy types into the computer, "PRINT 5 + 47" and waits for the computer to give the answer.

☐ 8. John puts all of this spelling papers on top of the computer and types, "Please tell me what grade I will get in spelling on my next report card."

☐ 9. "This computer always makes mistakes," said Tom, and he hit the top of the computer.

☐ 10. Opal types into the computer, "Give me a hamburger, please."

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NAME: ______________________________ PERIOD: ________

Using the Computer at Home, at School and at Work

Select the best way a computer can be used at home, at school or at work.

____ 1. Computers can be used at home to:
a. do the dishes.
b. keep track of expenses.
c. iron clothes.
d. sing songs.

____ 2. Computers can be used at school to:
a. write reports.
b. read a book.
c. play a guitar.
d. play baseball.

____ 3. Computers can be used at work to:
a. talk to customers.
b. write letters to customers.
c. store money from customers.
d. buy supplies.

____ 4. Computers can be used at home to:
a. walk the dog.
b. feed the bird.
c. make lists of friends' names and addresses.
d. put a model train together.

____ 5. Computers can be used at school to:
a. Learn about something new.
b. Talk to the principal.
c. Sharpen your pencil.
d. Play basketball.

____ 6. Computers can be used at work to:
a. Lift heavy packages.
b. Read the newspaper.
c. Print mailing labels.
d. Open the door.

Fold a clean piece of paper into thirds the long way. Then on one third make a list of things computers can do at home. On another third, make a list of things computers can do at school. Then make a list of things computers can do at work on the last section.

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NAME: ______________________________**PERIOD:** ________

Where Am I?

A computer has many uses and can be found in many places. Read each of the places and uses below, and write each phrase under the correct heading. Some phrases might be included under more than one heading.

On the desk
To know how many to order
To write letters to customers
In the library/media center
In the kitchen
To print a bill
To send letters
To keep track of grades
To play games
To learn new things
To see how many have been sold
In the den
In the principal's office
To check out books
To write a report
To print a list of students
To write a check
To print a greeting card
To keep a list of friends
Next to the teacher's desk

Home:

School:

Business:

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NAME: ______________________________ PERIOD: __________

Computers Everywhere

Describe one way computers are being used in each of the following areas:

medicine/health care	law enforcement/criminal justice	engineering/design
business/banking	transportation/traffic control	defense systems
home	government/politics	weather prediction
library/media center	manufacturing	creative arts
publishing	public utilities	recreation

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NAME: ______________________________ **PERIOD:** ________

Home, School or Business?

Read each description below and tell whether you think the computer is being used at **home**, at **school**, or in a **business**. Underline the words that give you a clue.

____________________ 1. Chuck goes to the media center to get information for his report from the life science data base. He uses the computer to write, edit, and print his report. Then he gives it to his teacher.

____________________ 2. Carol gives her secretary a letter to send to one of the customers. James, the secretary, retrieves the customer's address from the data base. He enters the letter in the word processor, prints it, and sends it to the customer.

____________________ 3. Doug is trying to learn more about flying an airplane. He gets a videotape from the library about flight and plays it on his VCR when his sister is finished watching a movie. Then he goes into the den and uses a flight simulation program on his computer.

____________________ 4. Larry asks the clerk if the store has any more of a particular brand of toothpaste. He has looked on the shelf and cannot find it. The clerk goes to the computer, types in the name of the toothpaste, and tells Larry they are sold out but the store is expecting an order in two days.

____________________ 5. Betty takes a social studies test and uses an answer sheet on which she darkens the circle representing the correct answer. She gives it to her teacher who feeds all the answer sheets into a scoring machine attached to the computer. It tells the teacher how many Betty got right and which ones she got wrong. It automatically records Betty's score in an electronic grade book.

____________________ 6. Karen is baking cookies. She needs a recipe that a friend sent her on a floppy disk. She goes to her computer, finds the recipe on the disk, prints out the recipe and goes back to the kitchen. She continues making the cookies.

**COMPUTERS IN OUR LIVES
WORKSHEET**

NAME:____________________ PERIOD:____________________

WHERE AM I?

AT HOME, AT SCHOOL OR AT A BUSINESS

Computers are used at home, in school and in business.

DIRECTIONS: Write on the line **Home, School or Business** depending upon where the computer is used.

______________________ Lists teachers' names and their room numbers

______________________ Analyzes recent football games with opponents

______________________ Keeps students' grades

______________________ Controls sequencing of traffic lights

______________________ Makes Christmas card list

______________________ Checks individual income tax return

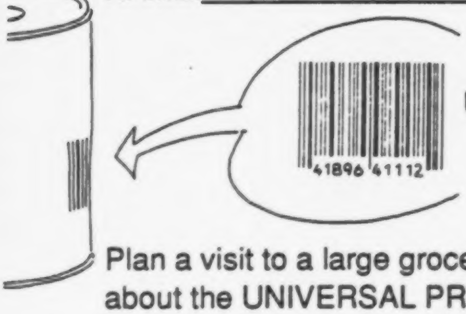
______________________ Keeps family budget

______________________ Displays cost of item at checkout counter

COMPUTERS IN OUR LIVES
WORKSHEET

2-19

NAME:____________________ PERIOD:____________________



UNIVERSAL PRODUCT CODE

Plan a visit to a large grocery store. Ask the manager or a store clerk about the UNIVERSAL PRODUCT CODE. Some of the questions you might ask are below. Add to your list some questions of your own.

1. What does the mark stand for?

2. Do all of the things in the store have the same kind of mark?

3. Are all of the things in the store marked wih this code?

4. How is the mark put on?

5. Why does the store use or not use the code?

NAME:____________________ PERIOD:____________________

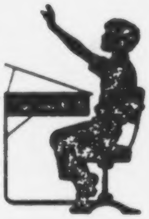
COMPUTERS IN OUR DAILY LIVES

DIRECTIONS: Computers effect our lives every day. In the following story underline each example that shows how the computer can be used in daily life. You should be able to identify seven (7) examples.

You are awakened by your digital alarm clock at 7:00 a.m. As you walk into the kitchen your mother is taking a bowl of oatmeal out of the microwave oven for you to eat.

After breakfast your mother is going to drive you to school. After she starts the engine, you hear a voice reminding you to buckle your seat belt.

In history class, Mrs. Jones passes out a test and tells you that she typed it on her word processor. Since the test is multiple choice, she has you bubble in the answer on a separate answer sheet so that she can machine score them. This way she can have the test results quickly.



Your mother picks you up after school. On the way home you make several stops. The first stop is at the automatic teller machine where your mother uses her bank card to withdraw some money. The second stop is at the grocery store to buy some food for dinner. The cashier at the check-out line runs each item over the scanner to quickly get the total you owe. The final stop is home.

NAME:______________________ PERIOD:______________________

Jobs! Jobs! Jobs!

For ten (10) of the fourteen (14) jobs listed below, describe how a computer might be used.

Lawyer____

Astronaut____

Postal Carrier____

Police Officer____

Teacher____

Doctor____

Basketball player____

Hotel desk clerk____

Banker____

Cashier____

Accountant____

Author____

Auto mechanic____

Artist____

PACKET: GETTING THE COMPUTER TO DO WHAT YOU WANT

INTENDED OUTCOME ADDRESSED IN THIS UNIT:

The student will identify the relationship between computer programs and computer languages (i.e., programs are written in computer languages to solve problems).

The student will identify at least three computer languages and an appropriate area of application for each.

The student will match computer activities to the following computer applications:
(1) instruction (2) word processing (3) information storage retrieval
(4) simulation (5) data processing (6) telecommunications

INTRODUCTION

This packet contains teacher strategies, study sheets, sample-tests and a self-help module for students to take home. Information is presented in greater depth in later units so you may want to skip this packet.

Included in this unit are Textbook Worksheets which are correlated by page and paragraph to the Scholastic Computing textbook. These worksheets have been used successfully with students who have poor reading and study skills. They provide a structured study guide to the information in the textbook. Scholastic Inc. has granted permission to copy these sections of the textbook.

VOCABULARY

ADA
Basic
Cobol
data bank
date base
data base management programs
drill and practice
Fortran
Logo
modem
Pascal
password
program
programming language
programming statements
search and replace mode
simulations
telecommunications
wordprocessing

SUGGESTED TEACHER ACTIVITIES

Select appropriate classroom and take home activities needed to implement and reinforce the objective. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your school media specialist, from the Palm Beach County School Board Film Library or from your personal collection.

Explain that computer programs are written in **special computer languages.**

Discuss the idea that computer progams can be **written in different languages**. Use Study sheet 3-9 and Worksheets 3-15-3-18 to reinforce this objective.

a. FORTRAN (Formula Translation) is used mostly for math and science.
b. COBOL (Common Business Oriented Language) is used mainly in business.
c. BASIC (Beginners All-Purpose Symbolic Instructional Code) is used mainly in business and education.
d. LOGO is a language designed for instructional purposes and specifically for use by children of all ages.
e. ADA is named for the first woman programmer, Ada Lovelace, and is used by the military.

Look in computer magazines and books **to find copies of programs written in different languages.** Copy and display the program in the classroom.

Compare programs written in various computer languages and list the similarities and differences you find. Use Worksheets 3-16, 3-17 and 3-18.

Show the SVE sound/filmstrip Understanding Programming. Discuss the contents.

Explain to students that a **program is a list of directions** or instructions written in a special language or code which tells the computer what to do and in what order to do it.

Show the students a **sample hard copy** of a simple program with emphasis on the statement numbers.

One computer language is called LOGO or Turtle Graphics. Explain that we are going to play "Simon Says." The teacher is Simon and all of the students will be the "turtles." The teacher needs to tell the students that they are to act out the motion the turtle would do when the keys F (Forward), B (Back), L(Left), and R (Right) are pressed.

Provide **task cards with simple BASIC or Logo commands** that students can type into the computer and run. Use public domain programs so that students can list the command and line statements and see how they make the computer "do things". Public Domain programs are available at FDLRS/Alpha. Blank diskettes must be provided by the teacher at the school so that copies can be made.

See Chapter 7 for more detailed information on BASIC programming.

Provide students with copies of the self-help, take-home packet for study and homework.

GETTING THE COMPUTER TO DO WHAT YOU WANT **3-3**
TEXTBOOK WORKSHEET

NAME: ______________________ **PERIOD:** __________

CHAPTER 3

Directions: This worksheet accompanies Chapter 3 - Getting the Computer to do What You Want, in your Textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Begin work on **Page 36**

1. Before a computer can do anything, it must start with a __________________. (Paragraph 2)

2. A program is a set of ______________ that tells the computer _______________ to do and ___________________________ to do it. (Paragraph 2)

3. There are two ways you can get a computer to do what you want. From Paragraphs 3 and 4 explain how.

   1. ____
   2. ____

Page 37

4. The most widely used language for microcomputers is called _________________. That stands for ______________ ______________ _______________ ________________ ___________________ _________________. (Paragraph 3)

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 36-39 AND RECORD YOUR ANSWER HERE.

Page 39

6. What do you call a set of instructions that tells a computer what to do and how to do it? ____

Page 39

7. What is the name of the most widely used programming language for microcomputers? ______________________________

8. Why would a computer that knows BASIC not know what to do if you typed the following statement into it:

```
10 PRINT WHAT IS YOUR NAME?
```

Page 42

9. Today, there are many programs you can buy that will help you do many things. Name the four listed in Paragraph 2.
   1. ______________________________
   2. ______________________________
   3. ______________________________
   4. ______________________________

10. A __________________ processing program, turns the computer into a very sophisticated, "smart" __________________. (Paragraph 7)

Page 43

11. A word processing program can __________________ a word into the middle of a sentence. (Paragraph 2)

Page 44

12. The ability of two computers to send information back and forth that is made possible by a special device called a __________________. (Paragraph 4)

Page 45

13. A modem is just one example of how computers can talk to each other. But, today computer-users can subscribe to many large __________________ __________________, which are a large computer systems that store vast amounts of __________________. (Paragraph 3)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Page 47

14. Today, there are hundreds of educational programs that are helping students with many different subjects. Many of the programs are in a form that's called ________________________ and ________________________________, which review your studies in school. (Paragraph 4)

Page 47

15. There are other programs that are know as ____________________, which simulate or imitate real-life or historical events. (Paragraph 5)

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 42-47 AND RECORD YOUR ANSWERS HERE.

16. What kind of computer program would you use to do the following tasks:
    a. Write a book report? ____________________________________
    b. Organize information about your stamp collection?
    ____
    c. Edit a school newspaper?
    ____
    d. Get information about an airline schedule?
    ____
    e. Observe the results of pollution on plant and animal life?
    ____

17. Which of the following is an example of a data base: (Circle one)
    a. Your address book
    b. Your collection of stereo records

18. What kind of computer program would you likely use to review and test yourself on algebra problems?

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

GETTING THE COMPUTER TO DO WHAT YOU WANT **3-6**
SAMPLE TEST

NAME:____________________ PERIOD:____________________

LANGUAGES

You speak English and the computer speaks only machine language. In order for you to communicate you must use a third language that you both know. There are over 100 programming languages.

DIRECTIONS: Read the following statements. Place a check next to the correct answer.

A program is

__________a. a set of instructions written for a computer to understand.

__________b. a step-by-step procedure for a computer to follow.

__________c. written in a specific computer language.

__________d. all of the above.

A programming language is

__________a. a system of words, symbols, and commands that allows human beings to communicate with a computer.

__________b. a program that you can view on a stage or TV.

__________c. the class schedule that you could sign up for.

__________d. a program you can listen to on a radio.

DIRECTIONS: Write down the names of three computer programming languages.

____

____

____

STUDY GUIDE

Select Study Sheets and Worksheets from the Study Guide section to provide students with take-home material to reinforce skills learned in class.

Reproduce only those materials that relate to the needs and ability level of the student. Use the Sample Tests to ensure student mastery of the objectives.

STUDYSHEET

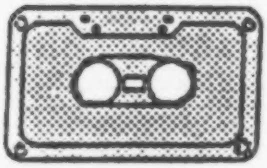
NAME:____________________ PERIOD:____________________

STORING INFORMATION

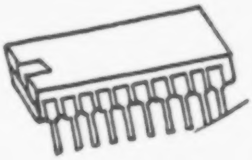
Computer programs can be stored in several different ways:

.disks
.tapes
.ROM cartridges
.hardcopy
.computer chip

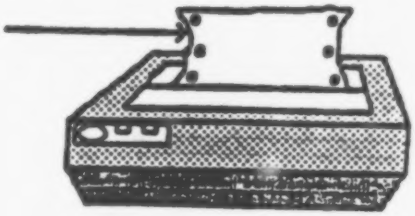
Each has advantages and disadvantages. Tapes and disks are relatively **inexpensive**, but can be **easily destroyed.** There are now **two standard sizes of diskettes.** The 5.25" is gradually being replaced by the 3.5" disk. The **3.5" disk is smaller** but can **hold twice** as much information as the larger diskette. The 3.5" disk is also housed in a **hard plastic cover** instead of the soft vinyl which covers the 5.25" disk. Disks can hold a lot of information. The same information can be saved on a cassette tape. However, a **tape is long, and slow** and it is **difficult to locate programs** on it. ROM (Read- Only-Memory) **cartridges** are not easily damaged, but they **cannot be changed** and are **expensive. Hardcopy,** also called a printout, lets you **see the computer program,** but it must be **typed back into the memory** of the computer if it has not been stored on some other type of storage medium.



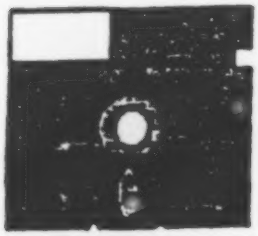
CASSETTE TAPE



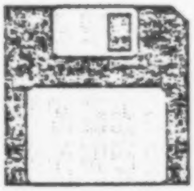
COMPUTER CHIP



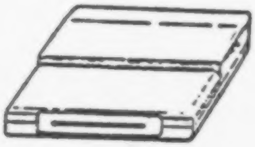
HARDCOPY FROM A PRINTER



5 1/4" DISKETTE



3.5 DISKETTE



ROM CARTRIDGE

NAME:____________________ PERIOD:____________________

LANGUAGES

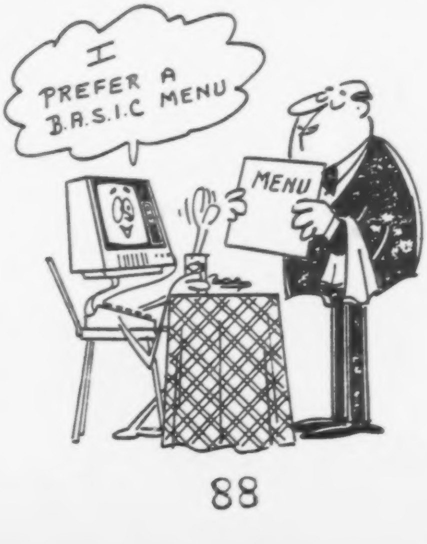
In order to use a computer you must be able to communicate with it. You must tell the computer what you want it to do and the computer must be able to understand what you want done. In addition you must be able to understand the message that comes back from the computer. The set of instructions that you type into the computer is called a program. It consists of a sequence of statements that define a process that solves a problem. In order to communicate with the computer, you need to be able to write the program in the computer's language. There are many different kinds of languages.

BASIC - Beginners All-Purpose Symbolic Instruction Code

FORTRAN - FORmula TRANslation used by scientists and engineers

COBOL - COmmon Business-Oriented Language used in business

LOGO - used in schools and features a "turtle" that is used to draw shapes


I PREFER A B.A.S.I.C MENU
MENU

STUDY SHEET

NAME:____________ PERIOD:__________

PROGRAMMING LANGUAGES

NAME	MEANING	USE
BASIC	Beginner's All-purpose Symbolic Instruction Code	Popular language with versions for many mini and micro computers
LOGO	From the Greek word logos meaning "thought"	Popular language for children which includes commands for creating graphics with a "turtle"
FORTRAN	FORmula TRANslation	Used with engineering and other formulas in science and math
COBOL	COmmon Business-Orinented Language	Used in most businesses
Pascal	Named for Blaise Pascal, 17th century mathmatician	Developed for computer scientists; used in computer science advanced-placement exam
Ada	Named for the first programmer, Ada Lovelace	Invented for the American military and used in industry

WORKSHEET

NAME: ____________________________ PERIOD: ____________

TYPES OF COMPUTER ASSISTED INSTRUCTION (CAI) I HAVE USED

DRILL AND PRACTICE

Title: ____

Date: ____

SIMULATION

Title: ____

Date: ____

TUTORIAL

Title: ____

Date: ____

EDUCATIONAL GAME

Title: ____

Date: ____

WORD PROCESSING PROGRAM

Title: ____

Date: ____

OTHER

Title: ____

Date: ____

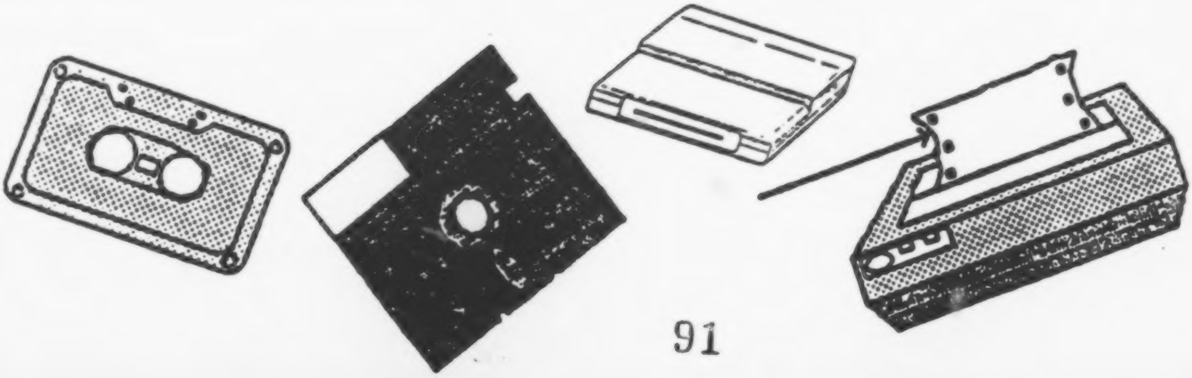
WORKSHEET

NAME:____________________ PERIOD:____________________

STORING INFORMATION

DIRECTIONS: Match the correct answers by drawing lines to connect the answers:

ROM cartridge	inexpensive holds a lots of information easily damaged
tape	expensive cannot be easily damaged cannot be changed
hardcopy	lets you see a printed copy difficult to find things on it long
disk	inexpensive easily damaged cannot hold a lot of information



GETTING THE COMPUTER TO DO WHAT YOU WANT **3-12**
WORKSHEET:

NAME:____________________ PERIOD:____________________

ADVANTAGES AND DISADVANTAGES OF STORING COMPUTER INFORMATION

DIRECTIONS: List the ways that computer programs can be stored:

____

____

____

____

DIRECTIONS: List the advantages and disadvantages of each:

DISKS

Advantages	Disadvantages
__________________	__________________
__________________	__________________

TAPES

Advantages	Disadvantages
__________________	__________________
__________________	__________________

ROM CARTRIDGES

Advantages	Disadvantages
__________________	__________________
__________________	__________________

HARDCOPY

Advantages	Disadvantages
__________________	__________________
__________________	__________________

GETTING THE COMPUTER TO DO WHAT YOU WANT WORKSHEET

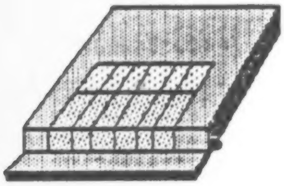
3-13

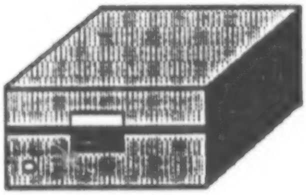
NAME: ______________________________ **PERIOD:** ________

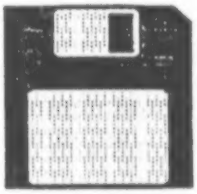
Name It

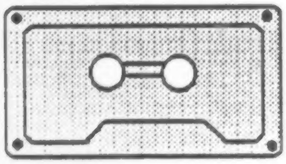
There are a lot of different ways to save computer programs and computer data. Label each of the following. Use these words.

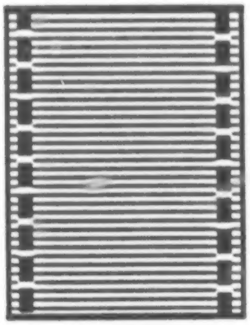
5.25 inch floppy disk
3.5 inch disk
disk drive
ROM cartridge
paper printout
cassette tape
cassette player
printer

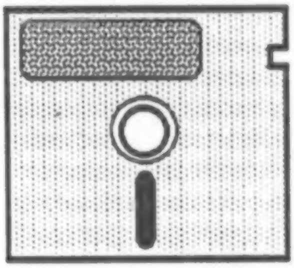


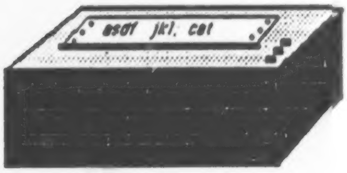


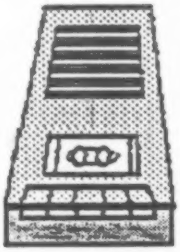












Which three pictures show hardware? Write your answers in the blanks below.

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GETTING THE COMPUTER TO DO WHAT YOU WANT **3-14**
WORKSHEET

NAME: ______________________________ **PERIOD:** ________

Where Should I Keep It?

For each of the items below, tell what is the best place to store it. Choose from the following places.

On paper
In a safe
In the closet
In the bank
On a disk
On a cassette
In a drawer
In an envelope

______________________ 1. A letter you want to mail

______________________ 2. A diamond ring

______________________ 3. The money you have saved from your allowance

______________________ 4. A song you have been singing so that you can hear it again

______________________ 5. Your socks

______________________ 6. A new coat

______________________ 7. A program you have written on your computer. The computer has a disk drive.

______________________ 8. A program you have written on your computer. The computer does not have a disk drive.

______________________ 9. A report you have written on your computer with a word processor. You must hand it in tomorrow.

______________________ 10. A report you have written on your computer. You want to add to it next week after you do some more reading. Your computer has a disk drive.

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NAME:____________________ PERIOD:____________________

COMPUTER LANGUAGES

DIRECTIONS: Read the information about computer languages on Studysheet 3-8 and then write one sentence about each language.

BASIC ____
____

FORTRAN ____
____

LOGO ____
____

PASCAL ____
____

COBOL ____
____

NAME:____________________ PERIOD: ____________________

LIKENESSES / DIFFERENCES

As a human being you are able to do logical thinking. You are able to find similarities and differences between things.

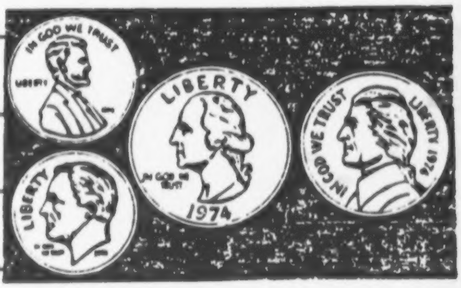
You have three coins: one quarter, one dime, and one penny. List two ways in which they are alike and two ways in which they are different.

Likeness:____________________

____

Difference:____________________

____


IN GOD WE TRUST
LIBERTY
LIBERTY
IN GOD WE TRUST
1974
LIBERTY
IN GOD WE TRUST
LIBERTY 1976

The most common computer languages are BASIC, COBOL, and FORTRAN. Pages 3-17 and 3-18 give you samples of computer programs written in these languages.

List three ways that the languages are **alike:**

____

____

List three ways that the languages are **different**:

____

____

GETTING THE COMPUTER TO DO WHAT YOU WANT 3-17
STUDY SHEET

NAME:______________________ PERIOD:____________________

COMPUTER LANGUAGES

BASIC

BASIC is a symbolic language which is used by people who are not computer specialists as well as by those who are; the words and symbols are easily understood by the general public; popular microcomputer language; Beginners All-purpose Symbolic Instruction Code:

```
10    INPUT A, B
20    IF A <= B THEN GOTO 50
30    PRINT "A IS LARGER"
40    GOTO 10
50    IF A<B THEN GOTO 80       Note: example is in APPLESOFT BASIC
60    PRINT "THEY ARE THE SAME"
70    GOTO 10
80    PRINT "THEY ARE THE SAME"
90    GOTO 10
```

COBOL

COBOL is a symbolic language which is used for general business operations, and is considered "wordy" because of the English-like notations; COmmon Business Oriented Language:

```
11          SELECT REPORT-OUT ASSIGN TO PR-1132-C.
12    DATA DIVISION.
13    FILE SECTION.
14    FD CARD-FILE
            LABEL RECORDS ARE OMITTED
            RECORD CONTAINS 80 CHARACTERS
            DATA RECORD IS REC-IN.
15    01    REC-IN.
16          02 EMPL-NAME          PICTURE X (30).
17          02 DEDUCTIONS         PICTURE 99.
18          02 HOURS-WORKED       PICTURE 99V99.
19          02 HOURLY-RATE        PICTURE 99V99.
20          02 FILLER             PICTURE X (40).
21    FD    REPORT- OUT
            LABEL RECORDS ARE OMITTED
            RECORD CONTAINS 120CHARACTERS
            DATA RECORD IS REC-OUT.
22    01    REC-OUT
      etc.
```

GETTING THE COMPUTER TO DO WHAT YOU WANT **3-18**
STUDYSHEET

NAME:____________________ PERIOD:____________________

FORTRAN

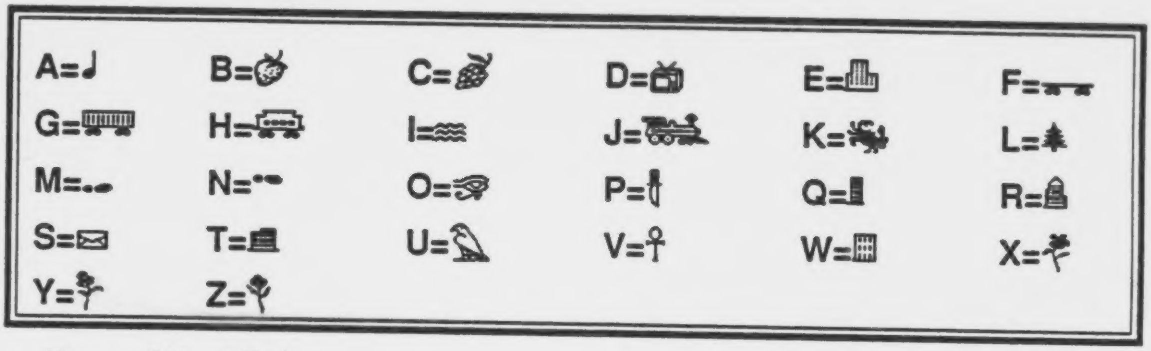
FORTRAN is a symbolic language which is used in science and mathematics it resembles a mathematical equation; FORmula TRANslation:

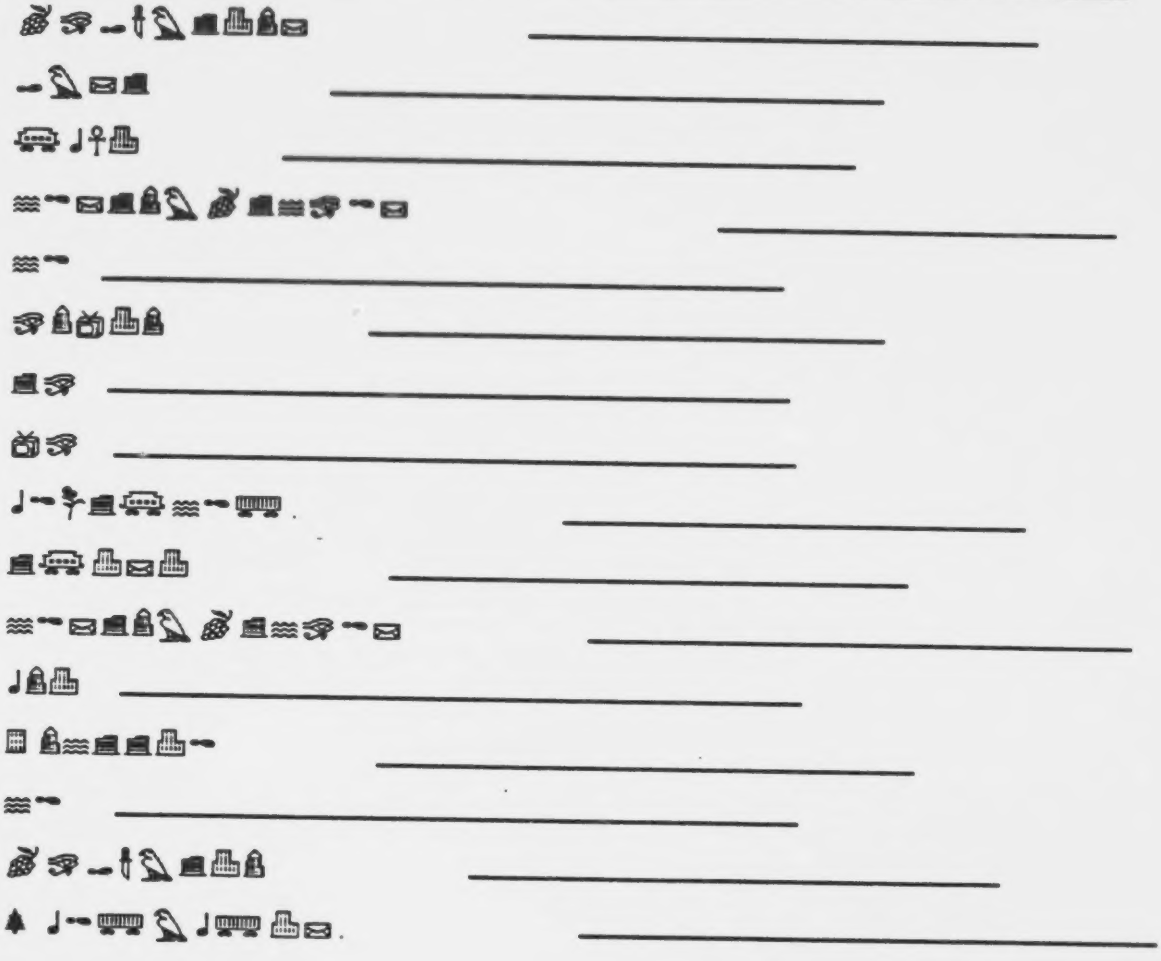
```
1070   FORMAT (1HO,10X, 'PCT HRS YEAR PCT  ',3(HRS PCT YEAR PCT
       * '),'HRS YEAR PCT',/,T12,'EFF UTL HRS INC  ',3('UTL
       *MTH HRS ANN   '),1X.'UTL HRS INC')
1080   FORMAT (13,3X,212,I1,2I2)
1090   FORMAT (212,4(213,I4,I3),I3,I4,I3)
1100   FORMAT (1H,2I3,4X,2(13,2X),I4,2X,I3,5X,3(I3,2X,I3,2X,I3,5X),
       *I3,2X,I4,2X,I3)
10     READ(8,1080)CTL.MONTH.YEAR,REGEN,SEQMO,SEQYR
       IF(CNTRL-CTL)20,30,20
20     WRITE (MESS,1000)CTL
       PAUSE 1111
       GO TO 10
30     IF(MONTH)40,40,50
40     WRITE(MESS,1010)MONTH
       PAUSE 2222
       GO TO 10
50     IF(MONTH-12)60,60,40
60     IF(YEAR)70,70,80
       etc.
```

NAME: ______________________________ PERIOD: ________

Secret Messages

Use this code to translate the secret message below.





Rewrite the message on another sheet of paper. You should have two sentences.

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NAME: ________________________________ **PERIOD:** ________

Software Shopping Questionnaire

Use the software catalog descriptions provided to answer the following questions:

List the titles of two word processing programs:

How do you know?

List the titles of two instructional programs:

How do you know?

List the titles of two programs that will assist with calculations:

How do you know?

List the titles of two programs that might help you make a decision:

How do you know?

List the titles of two programs that could be used for information storage and retrieval:

How do you know?

List the title of one telecommunications program:

How do you know?

Which title would you most like to own? Why?

Instructional Materials for Computer Literacy courtesy of the UCF/DOE Instructional Computing Resource Center, Copyright 1987.

INTENDED OUTCOMES ADDRESSED IN THIS UNIT:

The student will identify the purpose of the following devices: (a) keyboard; (b) CRT display (monitor/TV); (c) joystick/paddle; (d) tape/disk units; (e) printer; (f) speaker box; and (g) graphics tablet.

The student will indicate proper care and user responsibility for operating a computer system with :

a. the basic hardware (e.g., keyboard, monitor, and tape/disk unit).
b. peripheral hardware (e.g., graphics tablet, joystick, and light pen).
c. additional peripheral hardware (e.g., printer and modem).

The student will identify these basic functions of a computer system: input, output, storage, and processing.

The student will identify the definition of each of the following terms: (a) input; (b) output; (c) program: (d) data; (e) software; (f) hardware; (g) internal memory; (h) monitor; (i) central processing unit (CPU); (j) input device; and (k) output device.

The student will identify the functions of the following parts of a computer system:

(a) input device;
(b) output device;
(c) central processing unit (CPU)-
    (1) internal memory storage
    (2) arithmetic/logic unit, and
    (3) control unit

The student will identify the sequence of the flow of information through a computer system (i.e., input, processing, output/storage).

The student will identify two (2) benefits of an external memory/storage device.

The student will demonstrate the proper power-up and power-down sequence for an available computer system.

The student will identify at least four (4) types of media on which software is stored, including hardcopy, disk, tape, and ROM cartridge.

The student will identify at least one advantage and one disadvantage of storing software on disk and tape.

The student will distinquish between Random Access Memory (RAM) and Read Only Memory (ROM) and their uses.

INTRODUCTION

This packet contains teacher strategies, study sheets, sample tests and a self-help module for students to take home.

Included in this unit are Textbook Worksheets which are correlated by page and paragraph to the Scholastic Computing textbook. These worksheets have been used successfully with students who have poor reading and study skills. They provide a structured study guide to the information in the textbook. Scholastic Inc. has granted permission to copy these sections of the textbook.

VOCABULARY

arithmetic/logic unit (A/LU)
backup copy
cassette player
cathode ray tube (CRT)
central processing unit (CPU)
control unit
data
disk drive
file
floppy disk
graphics tablet
hard copy or print out
hard disks
input
joystick
keyboard
light pen
machine language
magnetic
magnetic disk
magnetic tape drive
microprocessor
monitor
mouse
output
printer
processing
random access
random-access memory (RAM)
read-only memory (ROM)
record
secondary or auxiliary storage
sequential access
touch-sensitive screen
voice recognition

SUGGESTED TEACHER ACTIVITIES

Select appropriate classroom and take home activities needed to implement and reinforce the objective. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your school media specialist, from the Palm Beach County School Board Film Library or from your personal collection.

Have students list the various **names used for the monitor**. (e.g., RGB [Red, Green and Blue], CRT [Cathode Ray Tube], screen, video display , video, display, TV, television)

Note: there is a difference between a TV and a computer monitor. A TV can be used as a computer monitor but not vice versa.

Explain that even though **different computer brands** look different, they still operate very much alike. Use an analogy of a Ford, Chevy and Nissan car. Have students make lists of **similarities and differences** between an Apple and IBM computer.

Using available catalogs, magazines, or advertisements for computer hardware, **compare prices, features and flexibility of different brands** of computers.

Exhibit, and demonstrate when possible **the purpose of each of the following devices:** (a) keyboard; (b) CRT display (monitor/TV); (c) joystick/paddle; (d) tape/disk units; (e) printer; (f) speaker box; (g) graphics tablet and (h) joystick. Discuss and define the function of each piece of computer hardware.

Demonstrate **proper techniques for the care and use of basic computer system hardware** and peripheral hardware. Stress the following: avoid dust and moisture; avoid shocks and vibrations; and provide proper ventilation.

Demonstrate the **functions of input, processing, storage and output.**

Discuss how a **computer solves problems** by receiving data (input) from the user, processing the data, storing the necessary information, and displaying the result (output).

Label steps in a real-life problem in terms of input, processing, storage, and output (i.e. , the process of making a banana split).

Show the SVE sound/filmstrip How Computers Work. Discuss the contents of the filmstrip.

Draw a **diagram indicating the flow of information** in, through, and out of a computer system.

Make a **bulletin board display** of computer terms including a visual depiction of their definitions.

Draw a **diagram of a computer and its parts.** Label them with the terms listed in the objective.

Find selected **terms in the dictionary** and write out the definitions that best fit the function of a computer.

Demonstrate the **logical sequencing** of instructions to accomplish a task.

Demonstrate why a computer has to follow a **logical sequence of steps** to perform a task.

Develop a **series of instructions to solve a simple problem.** Label each step in the sequence as either input, processing, or output. Have students act-out or follow through each step exactly to complete the task.

Select at least three simple tasks. For **each task, list the individual steps** that will be required to accomplish the task.

Label each of the following as either input (I), processing (P), output (O), or storage (S).

a. Typing a letter on a word processor. (I)
b. Setting the timer on a microwave oven. (I)
c. Saving information on a computer disk (S)
d. Alphabetizing a list of names. (P)
e. Printing a list of names on a computer printer. (O)

Discuss **volatile memory (RAM)** as compared to **permanent memory (ROM).**

Discuss ways that computer users can overcome the problem of volatile memory (i.e., using magnetic storage media).

Demonstrate the various types of **magnetic storage media. Define each vocabulary word**: disk, storage, and magnetic.

Explain **how** information is stored magnetically on diskettes.

Take an old **5 1/4" diskette** and carefully cut open one end. Show students the inside of the diskette which has a white, soft material that "cleans" the diskette as it rotates. Show the students the magnetic disk. Stress the importance of taking good care of the diskette.

Have a sample **3.5 diskette** that students can examine. Let the students compare the 5.25 and 3.5 disks. Make a list of the advantages of the 3.5 disk. Discuss why the 3.5 disk is taking the place of the 5.25 disk.

Discuss the **relationship** of a computer's **internal memory** capacity and that of **external** storage devices.

Have a chart of the **power-up and power-down sequence** taped next to each computer in the lab.

Discuss and demonstrate the sequence of **steps used to power-up** an available computer system.

Discuss and demonstrate the **sequence of steps used to power-down** an available computer system.

Discuss and demonstrate the **various ways computer instructions (software) can be stored.**

a. written on paper
b. floppy disk (5.25 disk size)
c. hard disk
d. magnetic tape
e. ROM cartridges
f. paper
g. diskette (3.5 disk size)
h. cassette tape
i. punched cards (voting in state and national elections)

Explain and discuss how information in a computer gets **erased** when the machine is turned off.

a. Programs entered into a computer's memory are in a temporary storage area.
b. Unless the programs are saved before turning off the computer, they will be erased.

Demonstrate to students how information is **stored** by loading any program into the computer. Run a program; then turn off the computer. Explain to students that:

a. Even though the program is erased from the computer, it is not lost because it is saved on the diskette.
b. Saving information on diskette lets you see it over and over.

Provide students with copies of the self-help, take-home packet for study and homework.

NAME: ______________________________ PERIOD: __________

CHAPTER 4

Directions: This worksheet accompanies Chapter 4 - Computer Hardware, in your textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Fill in the missing information or words according to the specified pages and paragraphs.

Begin on **Page 54**

1. The first process step that every computer goes through is called ____________________, this is when ________________ or other information have to be entered into the computer. (Paragraph 1)

2. The second step, when the programs's instructions are carried out, is called ____________. (Paragraph 1)

3. The last step is called the __________________, which shows you the results of the work the computer has done. (Paragraph 1)

4. One type of input unit that gets information into a microcomputer is a ________________ - like keyboard. (Paragraph 3)

5. Some microcomputers use a ________________________ -cassette player as another type of input device. You can also use a powerful input unit called a ____________________ drive, which stores programs on a FLOPPY disk. (Paragraph 5)

Page 55

6. A floppy disk looks like a square 45 RPM ____________________. (Paragraph 1)

7. Inside the protective case is a ___________________ piece of ____________________ plastic. (Paragraph 1)

8. The disk drive, which is connected to the computer "________________" the program on the floppy disk, and ____________ it into the computer's memory. (Paragraph 2)

9. A disk drive can "____________________" programs into your computer much ______________ than a ______________ recorder. (Paragraph 3)

10. Another advantage of a floppy disk is that it can __________ many more ______________ and much more ______________ than a cassette tape can. (Paragraph 5)

Page 56 How to "Talk to" a Computer

11. A ______________ -sensitive ______________ directs the computer to carry out commands by your finger.

12. The number of words a ________________ recognition device can understand is ______________________.

Page 57 How to "Talk to" a Computer

13. An input device that looks like a small chalkboard is called a __________ ________.

14. ________________ pens are often used to draw ________________ for new products.

15. The "____________________" is a box that sits on the table, as you move it you move the CURSOR on the monitor.

16. A ________________ stick is often used for playing ________________ on home computers.

Page 58

17. The ______________ ________________ ____________ (CPU) is the most ______________ part of any computer system. (Paragraph 1)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

18. The CPU carries out the ______________________________ of the program that has been ____________________ into a computer's ____________________. (Paragraph 1)

19. Think of the CPU as the "____________________________" of the system. (Paragraph 1)

20. The most common ________________________________ unit for microcomputer is a ________________________ -like ____________________________ or CRT, which is short for _________________ _________________ ____________. (Paragraph 2)

Page 59

21. Your computer and ________________________, another OUTPUT device, work together to give you what is called a ____________ copy or PRINTOUT of reports that you may type into the system. (Paragraph 2)

22. One of the most ______________________ output devices, is your _______________ _________________, which is also an __________________ device. (Paragraph 3)

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 54-59 AND RECORD YOUR ANSWER HERE.

23. Name two different computer input units, other than a keyboard. What are some advantages and disadvantages of each?

DEVICE	ADVANTAGE	DISADVANTAGE
_____________	_______________	_______________
_____________	_______________	_______________

24. What is another term for MONITOR? ______________________

25. Name the output device that shows on paper what the processing unit has done. ____

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

HOW A COMPUTER PROCESSES INFORMATION

26. THE CENTRAL PROCESSING UNIT--the "________________________"
of a computer is where a computer does all of its COMPLICATED
__________________________. (Paragraph 4)

27. Inside a microcomputer, the CPU operates on a single ____________"
of silicon, called a __________________. (Paragraph 4)

28. The MICROPROCESSOR has __________________ MAIN parts: the
___________________ / _________________________ unit and
the ________________________ unit. (Paragraph 4)

29. There are two things every computer of any size can do extremely
well. What are the two things? __________________________ &
_______________________ ____________________________
(Paragraph 5 & 6)

30. An average MICROCOMPUTER can perform about _________________
math or _________________________________ operations every
___________________________. (Paragraph 7)

31. Larger computers can perform _______________________________
_____________________________________ or more operations per
____________________________________. (Paragraph 7)

32. All of the work that the ARITHMETIC/LOGIC UNIT (A/LU) does is
directed by the ________________________ unit. (Paragraph 8)

33. The CONTROL UNIT __________________________________ the flow
of information ____ and
____ of the computer; it
______________________________ the operation of the A/LU; and it
________________________ programs and other information to the
computer's MEMORY. (Paragraph 8)

Page 62

34. The computer understands a special number code, which is called the
built-in ________________________ language. (Paragraph 2)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Page 63 **4-7b**

35. There are some things that a computer never ________________.
(Paragraph 5)

36. But there are other things that the computer will
______________________ - only as long as the computer itself is
____________________________________ on. (Paragraph 5)

37. READ-ONLY MEMORY (__________) is the BUILT-IN machine language that the computer really understands. (Paragraph 8)

38. RANDOM-ACCESS MEMORY (____________) is where programs and information that you are currently using are stored. (Paragraph 9)

Page 64

39. There are two things to remember about RAM. The information you
___________________ in a computer's RANDOM-ACCESS MEMORY
will stay there only as long as the computer is _______________
_______________. The other thing is that the _______________
of RANDOM-ACCESS MEMORY that your computer has is
________________. (Paragraph 3)

Page 65

40. When you fill up all the space in RAM, you need a way to save that information outside the computer. You need what is called
SECONDARY or ___________________ ___________________.
(Paragraph 3)

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 61-65 AND RECORD YOUR ANSWER HERE.

41. What do you call the part of the CPU that
    (a) directs everything the computer does? ___________________
    (b) performs computations and makes decisions? ______________

42. Where does the computer store
    (a) instructions that tell it how to add and subtract?
    ____
    (b) programs that you put into ________________________

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Checkpoint questions continued

43. What happens to information in RAM when you turn the computer off?
____

Page 65

44. Whenever you fill up all the memory space in RAM, you can store your work outside the computer in one of two ways--either on ______________________ tape or magnetic ______________________________________. (Paragraph 4)

45. An INPUT unit called a MAGNETIC ______________ ______________ is used to enter information from a reel of tape into the computer's memory. (Paragraph 4)

Page 66

46. HARD DISKS are made from ________________________, which are permanently encased in a hard disk drive. (Paragraph 2)

47. Larger computer systems often use what is known as a ____________________ ______________________, which look like a stack of 33 1/3 RPM records. (Paragraph 2)

Page 67

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 65-67 AND RECORD YOUR ANSWER HERE.

48. What do you call storage in which information is kept outside of a computer? _______________

49. What do you call a stack of disks used by some large computer systems? __________________

50. What is one advantage of using a disk for storage? ______________________________ One disadvantage? ____

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

COMPUTER HARDWARE **4-8**
SAMPLE TEST

NAME:____________________ PERIOD:____________________

PARTS OF THE COMPUTER AND THEIR FUNCTIONS

I. Match the six computer parts, identified with the letters A-F, with the tasks they perform.

A. Input Device
B. Output Device
C. CPU
D. Internal Memory (ROM,RAM)
E. Arithemtic/Logic Unit
F. Control Unit

1.______ A part of the computer system that displays, prints, or records the results.

2.______ Part of the computer system that accepts information and puts the information into computer memory.

3.______ Temporary storage area for information.

4.______ Compares user answers to correct answers and performs mathematical operations.

5.______ Directs the flow of information through the computer.

6.______ Place where programs necessary to the operation of the computer are stored permanently.

II. Label each computer device below with its function(s). The first one is done for you.

INPUT
I/O
OUTPUT
STORAGE

1. __OUTPUT__ Monitor
2. __________ Hardcopy print out
3. __________ Graphic Tablet
4. __________ Mouse
5. __________ Light Pen
6. __________ Speech Synthesizer
7. __________ Keyboard
8. __________ Disk Drive
9. __________ Speaker box
10. __________ Tape Recorder
11. __________ Voice Recognition
12. __________ ROM cartridge
13. __________ Floppy Diskette
14. __________ Cassette tape
15. __________ Joystick/Paddle
16. __________ Modem

NAME:____________________ PERIOD:____________________

IDENTIFYING INPUT AND OUTPUT DEVICES

DIRECTIONS: Fill in the blanks below with a matching term from this list.

monitor (video display)
joystick
disk drive
graphics tablet
keyboard
printer

1.________________ A device connected to a computer that produces a "hard-copy".

2.________________ A piece of equipment that looks like a typewriter.

3.________________ A piece of equipment that writes and reads data on magnetic disks.

4.________________ A stick or lever used instead of pressing a key to move the cursor.

5.________________ A device attached to the computer that can be drawn on with a stylus.

6.________________ A computer device that looks like a TV screen.

DIRECTIONS: Fill in the blanks below with a matching term from this list.

light pen
voice recognition
speaker box
modem
tape recorder
mouse

7.________________ A device that amplifies for human hearing computer-generated sounds.

8.________________ A device that converts signals from a computer into signals that can be transmitted over a telephone line.

9.________________ A small box attached to the computer that moves the cursor.

10.________________ Hardware necessary to send information from a cassette to a computer, and back.

11.________________ An electronic pen or pencil that will draw a design when it touches the monitor.

12.________________ A device attached to the computer that accepts voice input.

NAME: ________________ PERIOD: __________________

CHECKING YOUR KNOWLEDGE ON CARE AND HANDLING OF HARDWARE

DIRECTIONS: Circle T for TRUE or F for FALSE for each of the following statements.

T F 1. Food or drink should not be allowed near the computer equipment.

T F 2. It is okay to type on the computer while the red disk drive light is on.

T F 3. Do not leave the printer on overnight.

T F 4. A good location for the computer is next to a sunny window.

T F 5. You can store your notebook and textbook on top of the monitor or CPU.

T F 6. When adjusting paper in the printer, never roll the paper toward you.

T F 7. It is okay to leave the computer on overnight.

T F 8. The keyboard can be damaged if you bang too hard on it.

T F 9. A joystick is a peripheral

T F 10. It is okay to plug several computers into one regular electrical outlet by using an expansion bar with extra plugs.

COMPUTER HARDWARE
SAMPLE TEST

NAME:____________________ PERIOD:____________________

COMPUTER TERMS

DIRECTIONS: Select the correct answer to match the computer term with its meaning. Use answers A - E to answer questions 1 - 5.

__________	1. internal memory	a. main group of chips inside the computer that processes information to solve problems
__________	2. CPU	b. TV-like part of the computer
__________	3. data	c. part of the computer where the information is stored
__________	4. hardware	d. parts of a computer - what you touch and see
__________	5. monitor	e. information used when your computer runs

---

DIRECTIONS: Use answers F - I to answer questions 6 - 9.

__________	6. program	f. programs for your computer
__________	7. output	g. information coming out of a computer
__________	8. software	h. information put into a computer
__________	9. input	I. instructions that tell a computer what to do

STUDY GUIDE

Select Study Sheets and Worksheets from the Study Guide section to provide students with take-home material to reinforce skills learned in class.

Reproduce only those materials that relate to the needs and ability level of the student. Use the Sample Tests to ensure student mastery of the objectives.

COMPUTER HARDWARE
STUDY SHEET

4-12

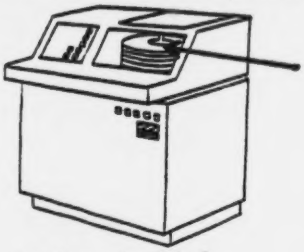
EXTERNAL MEMORY

External memory is a way of storing information called data, and software programs so that they can be saved and used again.

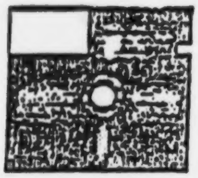
External memory is necessary because the volatile memory or RAM (Read-Only-Memory) of a computer disappears when the power supply is turned off.

External memory is necessary because the internal memory or RAM of a computer is limited. The internal memory is measured in kilobytes called 'k'. If a computer has 64k it means that approximately 64,000 characters can be stored in the computer memory and then it is full.

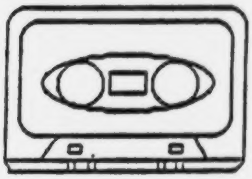
The external memory capacity expands the capability of the computer. Different programs are stored in external memory and can be loaded into the volatile, internal RAM when needed.



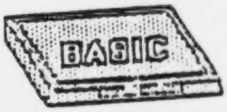
1. hard disk



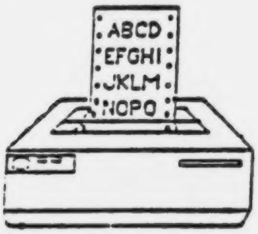
2. floppy disk



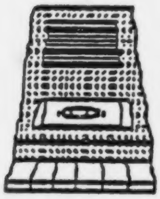
3. cassette



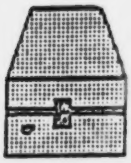
4. ROM cartridge



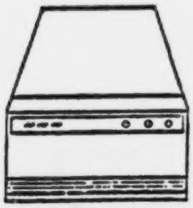
5. hard copy



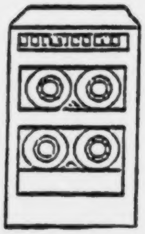
6. tape recorder



7. floppy disk drive



8. hard disk drive

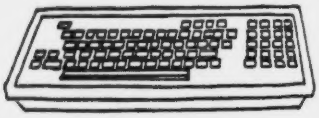
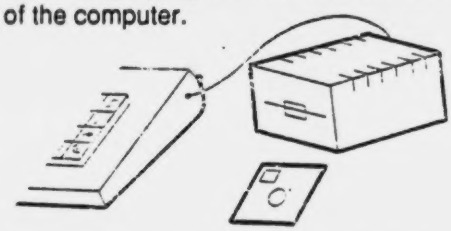
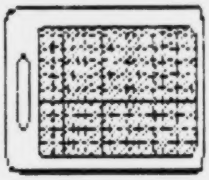
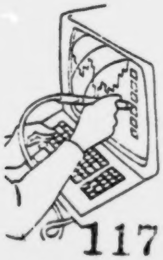


9. reel to reel

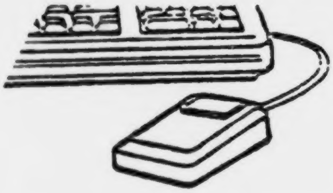
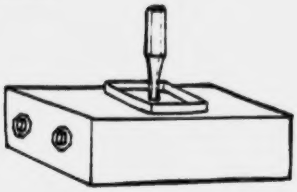
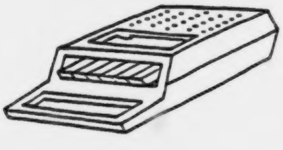
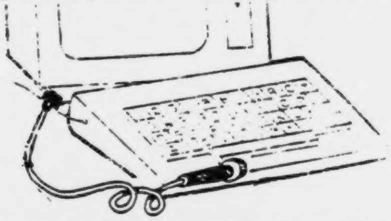
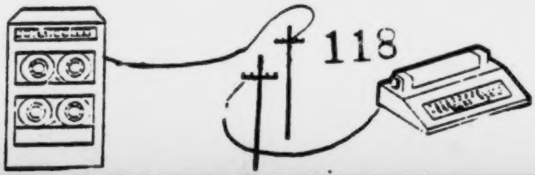
COMPUTER HARDWARE
STUDY SHEET

INPUT UNITS

An input device allows information to be put into the memory of the computer. Some input devices are part of the computer hardware system. Some are peripherals. A peripheral is any hardware device that is added on to the main computer.

keyboard	This is the most often used input device. It looks like a typewriter keyboard but has additional specifical function keys. 
disk drive	The disk drive enters programs that are stored on a floppy disk into the memory of the computer. 
graphics tablet	This device must be connected to the computer. It allows a picture to be drawn using a stylus. The picture appears on the screen of the monitor and goes into the computer memory. Graphics tablets can also be called touch sensitive tablets. You interact with the software program by touching the tablet surface. It is a peripheral. 
light pen	This is an electronic pencil or pen that will draw a design or record an answer when it touches the monitor. It is a peripheral. 

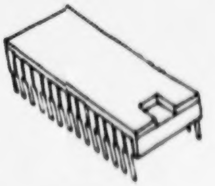
INPUT UNITS continued

mouse	This is a small box attached to the computer that tells the computer to move a cusor or an arrow on the screen in the same direction that you move the box. By clicking a button on top of the mouse, you can tell the computer to follow other instructions, such as to print or store information. It is a peripheral. 
joystick	This is a stick or lever that is used to control and move the cursor on the screen. It is a peripheral. 
cassette recorder	The cassette recorder works in the same manner as the disk drive. It enters a program that is stored on the cassette tape into the memory of the computer. 
voice recognition	This is a device that, when attached to the computer, allows the computer to follow instructions that you speak into a microphone. The computer is "trained" to recognize a person's "voice patterns". 
modem	This device converts signals from a computer (digital signals) into signals that can be transmitted over a telephone line (analog signals). 

NAME:____________________ PERIOD:____________________

THE CENTRAL PROCESSING UNIT

This is the part of the computer where all the information is processed. The processing unit of the microcomputer is built on a tiny chip of silicon. This silicon chip is called a microprocessor.



A tiny silicon integrated circuit chip is stored inside a plastic case with pins called a micro-chip.

The parts of the CPU and their functions:

Look on Page 62 of your textbook to see a diagram showing how the different parts of the computer work together to give you the information you need.

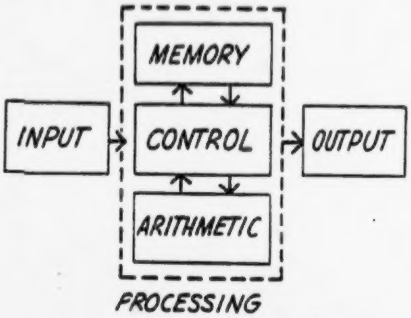
The Control unit - This works like a traffic cop directing traffic.
This unit directs the flow of information into and out of the computer's memory.

The Arithmetic/Logic unit - This does the mathematical computations and makes logical decisions.

Memory - This is the place where information is stored. This information is entered from the INPUT device. The CPU takes the information from MEMORY and then processes and returns the processed information to the MEMORY. The information goes from the MEMORY to the OUTPUT DEVICE.

Input - This is the part of the computer that puts information or data into the memory of the computer so the CPU can process it.

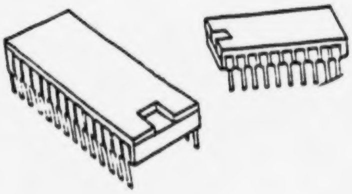
Output - This is the part of the computer that displays the information that has been worked on or processed by the computer.



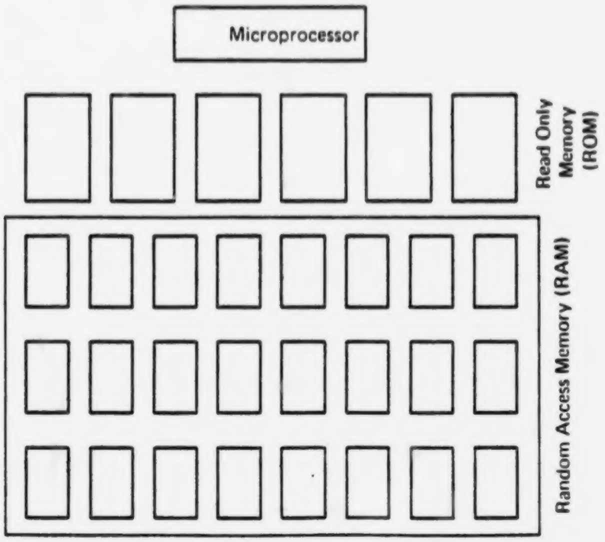
THE CENTRAL PROCESSING UNIT continued

The two types of comuter memory and their function

ROM - (READ-ONLY MEMORY) stores programs that the computer needs in order to operate. This is permanent memory, because this information can not be erased. The computer can only read the programs stored in ROM.



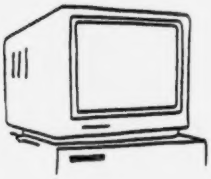
RAM - (RANDOM ACCESS MEMORY) this can be thought of as an empty box or file cabinet, ready to hold information that you type or load into the computer. Information in RAM can be changed. The information in RAM is lost when the computer is turned off.



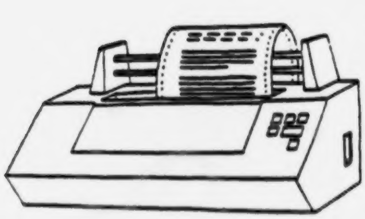
COMPUTER HARDWARE
STUDY SHEET

OUTPUT DEVICES

The output device gives out the information that has been processed in the computer.



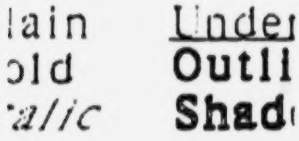
monitor
This is the most common output device. The information is shown on the screen like a television set.



printer
This is a device attached to the computer that produces a printed document. The printed document is called a printout or hardcopy.

There are several kinds of printers. A **daisy wheel** printer makes a letter quality print just like a typewriter.

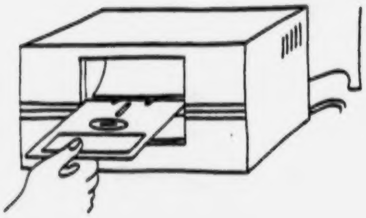
A **dot matrix** printer has a high speed and can print graphics. The letters and characters are formed by small pins that make dots.



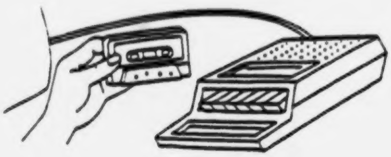
lain Under
old Outli
alic Shad

An **ink-jet** printer makes an impression by spraying ink on the paper.

A **laser printer** reproduces a full page at a time. It prints high resolution text and graphics.



disk drive
Programs stored in the computer memory can be saved on a diskette using the disk drive. There are two standard sizes of disk drives: 3.5 and 5.25. The disk drive is an I/O unit, an input/output unit.



cassette recorder
Programs stored in the computer memory can be saved on a tape using the tape recorder. The tape recorder is an I/O unit, an input/output unit.

speaker box
a device that amplified computer-generated sounds for human hearing.

speech synthesis
A integrated circuit board and speaker box that works with specific software to add speech to the program.

NAME:____________________ PERIOD:____________________

CARE AND HANDLING OF HARDWARE

The computer hardware must receive good care so it will last a long time to support our learning activities. Here are some guidelines to follow in caring for your equipment.

- Don't set anything on the system unit, the monitor, keyboard, or printer.
- Never have food or drinks around the computer.
- Never put the diskette into the disk drive while the red light is on.

- Do not put any item in the disk drive except a diskette.
- Use fingers only when typing on the keyboard. Do not pound on the keys, this can damage the keyboard.
- Avoid direct sunlight on the monitor.
- When you finish make sure the entire computer system is off.
- Do not leave the printer on overnight.
- Make sure the printer is turned on when you are ready to print.
- Do not roll the printer paper counter-clockwise.
- When the printer is on, DO NOT advance the paper manually.

ADVANTAGES AND DISADVANTAGES OF COMPUTERS

NAME: ______________________________ PERIOD: ______________________

DIRECTIONS: Look at each statement. Decide if the statement is an ADVANTAGE or a DISADVANTAGE when using a computer. Fill in the square that indicates your answer.

	ADVANTAGES	DISADVANTAGE
1. Computers are controlled by people.	☐	☐
2. Computers remember everything you tell them to do.	☐	☐
3. Computers can solve problems.	☐	☐
4. Computers can repeat a task endlessly.	☐	☐
5. Computers can work much faster than people can work.	☐	☐
6. Personal computers cannot make decisions.	☐	☐
7. Computers break down.	☐	☐
8. Computers must be given correct instructions and information.	☐	☐
9. Computers need a power source such as electricity to work.	☐	☐
10. Computers are expensive.	☐	☐

COMPUTER HARDWARE
WORKSHEET

4-20

NAME:____________________ PERIOD:____________________

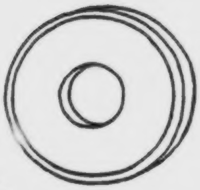
EXTERNAL STORAGE

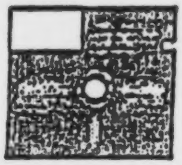
Label the external materials and storage devices on the lines provided below. Use the following terms:

hard copy
reel to reel
floppy disk
chip

floppy disk drive
ROM Cartridge
tape recorder

hard disk
cassette
hard disk drive


1.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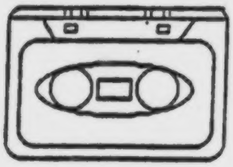
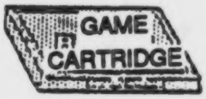
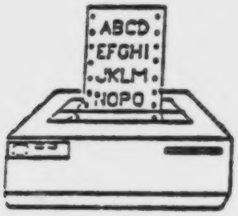
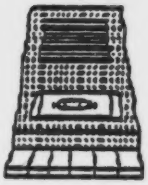
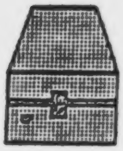
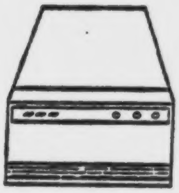

3.

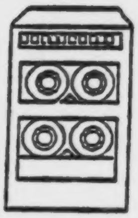

GAME
CARTRIDGE
4.

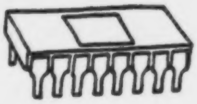

ABCD
EFGHI
JKLM
NOPQ
5.


6.


7.


8.


9.

10.


1. ____________________
2. ____________________
3. ____________________
4. ____________________
5. ____________________
6. ____________________
7. ____________________
8. ____________________
9. ____________________
10. ____________________

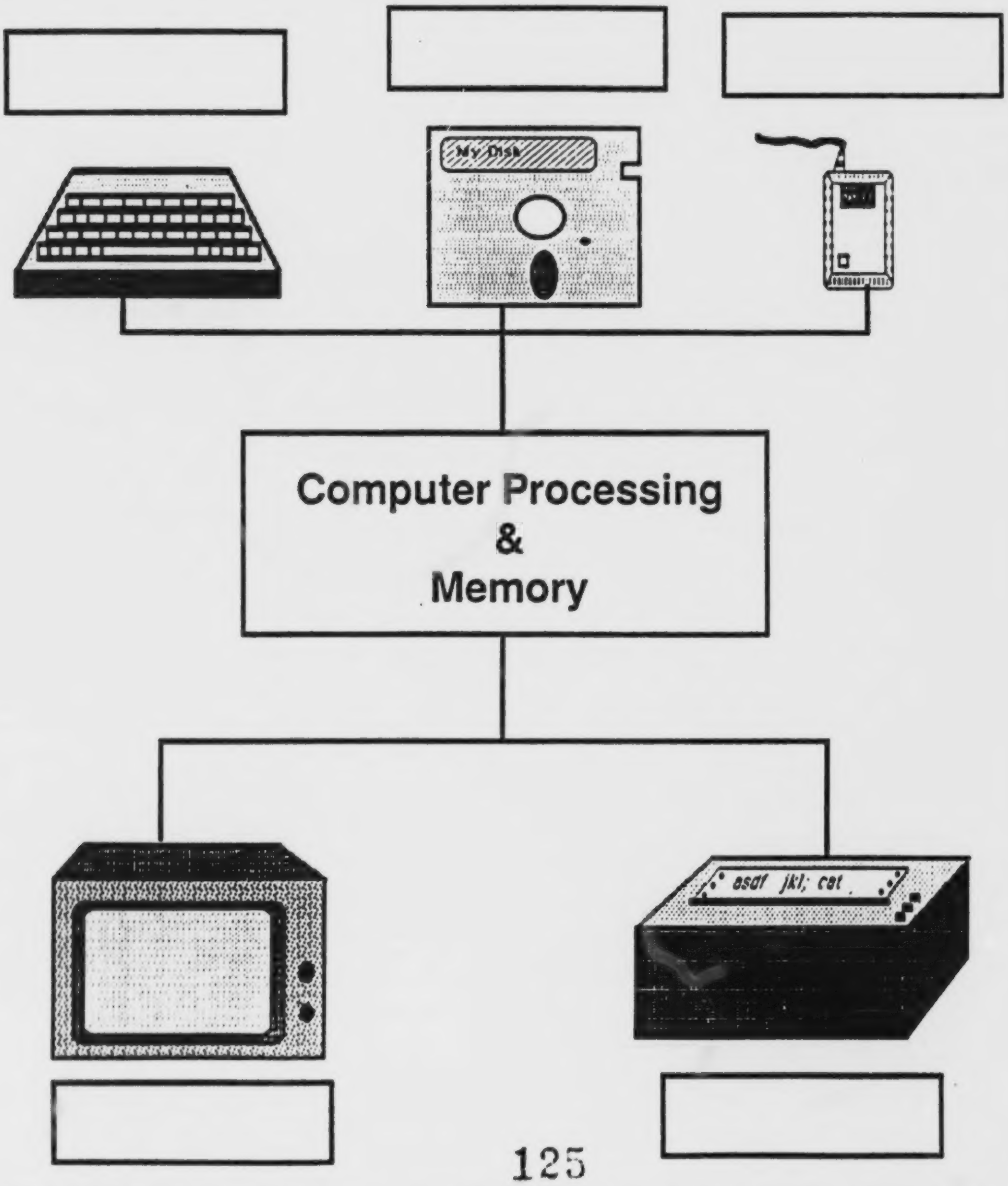
COMPUTER HARDWARE
WORK SHEET

NAME: ______________________ PERIOD: __________

B12.1

Way To Go!

Show that you know how the computer works by labeling the boxes below **input** or **output**. Then describe in your own words on another sheet of paper how information gets into and out of the computer.


My Disk
Computer Processing
&
Memory
asdf jkl; cat

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NAME: ______________________________ PERIOD: ____________

Believe It or Not?

Read the statements below and then tell whether you believe it or not by circling yes or no.

1. You can use a disk drive to display information. Believe it or not?

   Yes **No**

2. A monitor, CRT, and television look very much alike. Believe it or not?

   Yes **No**

3. A disk drive and a phonograph are the same piece of hardware. Believe it or not?

   Yes **No**

4. To save information on a disk, you need a disk drive. Believe it or not?

   Yes **No**

5. A joystick, a graphics tablet, a mouse, and the keyboard are all output devices. Believe it or not?

   Yes **No**

6. A disk drive and a cassette tape player do very much the same thing. Believe it or not?

   Yes **No**

7. A disk drive can be used as an input device or as an output device. Believe it or not?

   Yes **No**

8. A printer does the same thing as the keyboard. Believe it or not?

   Yes **No**

9. You cannot use the computer if you don't have a printer. Believe it or not?

   Yes **No**

10. A keyboard can do anything the rest of the computer can do. Believe it or not?

    Yes **No**

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COMPUTER HARDWARE
WORK SHEET

4-23

NAME: ____________________ PERIOD: __________

B11.5

What Is It?

Read the statements below and then tell whether each one shows an input , output , a process, or storage by circling the right word.

1. Jeremy takes pictures at the basketball game.

   input **process** **storage** **output**

2. Jeremy keeps the film in a cool dark place.

   input **process** **storage** **output**

3. Jeremy develops the film.

   input **process** **storage** **output**

4. Jeremy looks at the pictures.

   input **process** **storage** **output**

5. Margie puts the ingredients for the cake in the cupboard until she is ready to use them.

   input **process** **storage** **output**

6. Margie mixes the ingredients.

   input **process** **storage** **output**

7. Margie eats the cake.

   input **process** **storage** **output**

8. Margie puts the ingredients for the cake into the bowl.

   input **process** **storage** **output**

9. Larry types a new program into the computer.

   input **process** **storage** **output**

10. Larry keeps his program on a disk or cassette tape.

    input **process** **storage** **output**

11. Larry prints out the program on his printer.

    input **process** **storage** **output**

12. Larry runs the program.

    input **process** **storage** **output**

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COMPUTER HARDWARE 4-24
WORK SHEET

NAME: ______________________ PERIOD: __________

Missing Input--Missing Output

In the center row below, a process is described. In one of the other rows, either the input or the output is given. Fill in the missing input or missing output.

Input	Process	Output
Put your money in the vending machine	Money falls down and you pull lever	
	Washing machine washes clothes and spins dry	Clean clothes
Wet clothes	Dryer heats and spins	
	Cindi eats lunch	Cindi is full
	Give it water, sun and time	A flower

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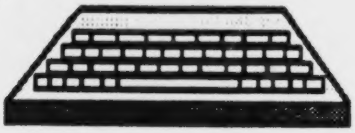
COMPUTER HARDWARE
WORK SHEET

4-25

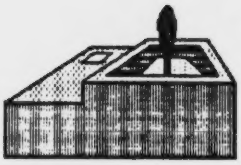
NAME: ______________________ PERIOD: __________

Input or Output?

Label each input device below with the word **Input.** Label each output device with the word **output.** If it is both an input and an output device for the computer, label it **I/O.**



____



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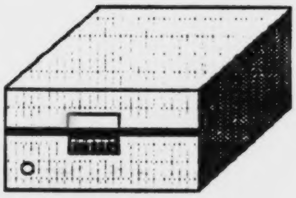

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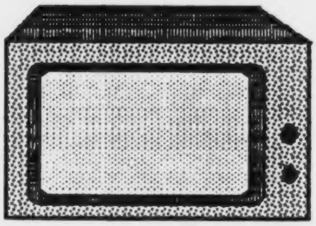

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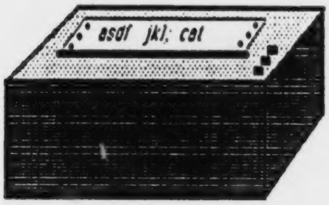

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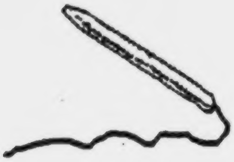

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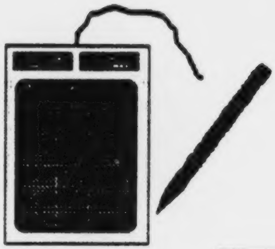

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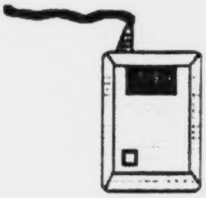

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COMPUTER HARDWARE
WORK SHEET

4-26

NAME: ______________________ PERIOD: __________

Is It Good for Your Computer?

Write the words and phrases below in the correct column to show whether something is good or is not good for your computer.

- Dust
- Putting a cover on it
- Chalkdust
- A rainstorm
- Dusting it
- Having clean hands
- Typing gently
- Smoking near it
- Eating near it
- Dropping it
- Putting a plant on it
- Touching the screen
- Keeping it cool
- Turning it on correctly

GOOD:	NOT GOOD:

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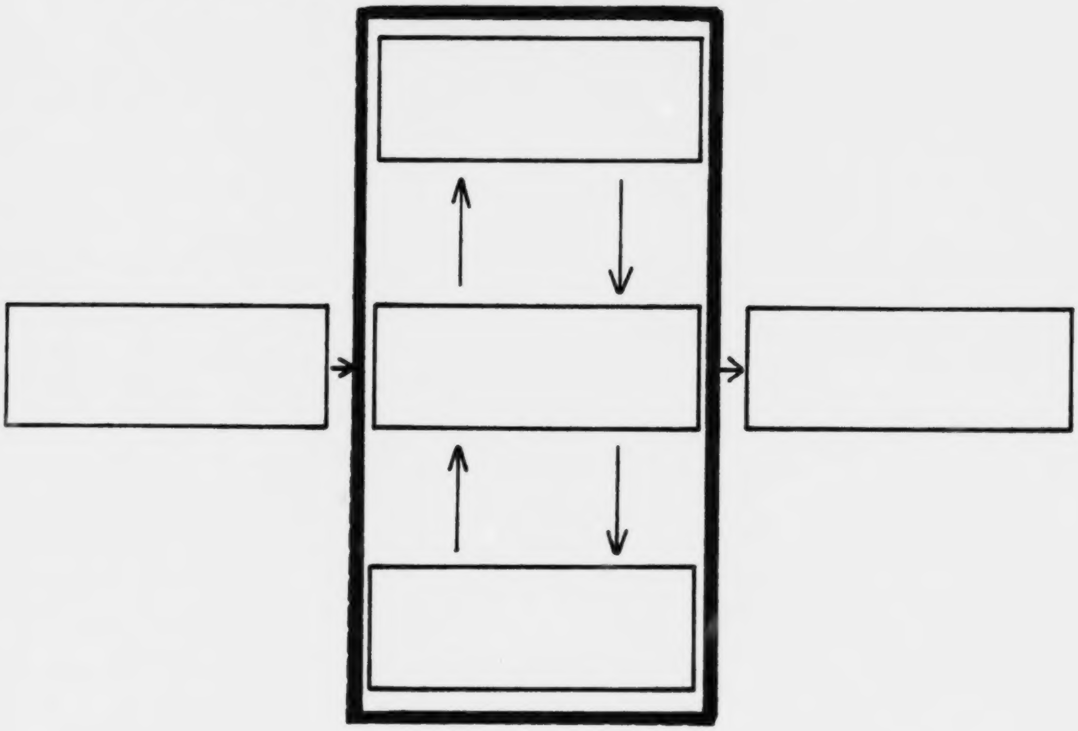
COMPUTER HARDWARE
WORK SHEET

4-27

NAME: ______________________ PERIOD: __________

SYSTEM

Write the six labels into the appropriate place to show the parts of the computer system.



Arithmetic

Control

Output

Input

Memory

CPU

COMPUTER HARDWARE
WORK SHEET

NAME: ______________________________ PERIOD: ____________

Which Is Which?

Choose one of these words to name the computer parts described:	
monitor	keyboard
disk drive	light pen
printer	graphics tablet
joystick	mouse
cassette player	

1. You can't see anything the computer does without me.

____

2. I can help you talk to the computer. Just push my buttons.

____

3. Draw on me and I'll draw on the computer screen.

____

4. I don't squeak and I don't eat cheese. You can use me to move the arrow on the screen.

____

5. Move my stick and I'll help you move around the screen.

____

6. If you want to take your work outside with you, you'll need me to get a copy on paper.

____

7. Put your floppies in me, and I'll "save" you a lot of work.

____

8. I play music and recordings of your own voice. But I'm also the one that inputs and outputs information to some computers.

____

9. I can't write on paper. I can't write on the chalkboard. But I can write on your computer screen very "lightly."

____

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PACKET: COMPUTER SOFTWARE

INTENDED OUTCOMES ADDRESSED IN THIS UNIT:

The student will identify the difference between computer hardware and software.

The student will identify the fact that a computer requires specific instructions to operate.

The student will identify the fact that software refers to a computer program.

The student will identify the fact that software must be compatible with the equipment that is being used.

The student will identify at least three (3) resources for obtaining computer programs.

The student will indicate the proper techniques for care and use of computer storage media (e.g., disks, tapes, ROM cartridges).

The student will identify the purpose of creating a backup copy of a storage medium.

The student will identify the purpose and use of user documentation (user manual and visual presentation during program execution, etc.).

The student will identify the need for initializing/formatting a storage medium.

INTRODUCTION

This packet contains teacher strategies, study sheets, sample tests and a self-help module for students to take home.

Included in this unit are Textbook Worksheets which are correlated by page and paragraph to the Scholastic Computing textbook. These worksheets have been used successfully with students who have poor reading and study skills. They provide a structured study guide to the information in the textbook. Scholastic Inc. has granted permission to copy these sections of the textbook.

VOCABULARY

application software
backup copy
bytes
computer software
copied
directory or catalog
disk operating system
drive spindle hole
file
file name
floppy diskette
format(ting)
head access opening
initializing
load
machine language
memory
menu
program
reset key(s)
sectors
simulation
software
system disk or master
system software
tracks
utility
write protect notch

SUGGESTED TEACHER ACTIVITIES

Select appropriate classroom and take home activities needed to implement and reinforce the objective. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your school media specialist, from the Palm Beach County School Board Film Library or from your personal collection.

HARDWARE

Discuss the following:

a. Computer hardware is the computer and all computer related equipment.
b. The main components of computer hardware are Input/Output devices and the CPU.
c. The Central Processing Unit (CPU) is the major piece of computer hardware.
d. The CPU is made up of (1) the arithmetic/logic unit; (2) the control unit; and (3) internal memory.
e. Computer software is the set of instructions for the computer. The set of instructions is called a program.

Show the SVE sound/filmstrip Hardware and Software available at FDLRS/Alpha. Discuss the contents.

Make a **collage of pictures** of computer hardware cut from magazines, newspapers, and computer catalogs (i.e., system units, printers, monitors). Label the pieces of hardware.

Discuss the various ways that computer **instructions can be input** into a computer (i.e., keyboard, disk drive, graphics tablet, light pen, cassette tape).

SOFTWARE

Have students look up the word **"software" in the dictionary** and write the definition given.

Discuss with the students the meaning of software as: **software is** the collection of programs that make a computer do a job. **A program** is a set of instructions written in a code language that the computer can understand that will make the computer complete a set of actions. Computers by themselves are not capable of doing any type of work. A computer needs the instructions from software to work. Software is broken down into two main types:

a. System software - contains all the programs necessary to run the computer. It is put into the computer at the factory. It is stored on a ROM chip.

b. Application software - consists of programs written to solve specific problems. Some examples of application software are: word processing, data base, and spread sheets.

Find copies of software (program code instructions) in **computer magazines** and post them in the classroom.

Get a **recipe or a box of food with directions.** Instant pudding is good for this exercise. Have students do the directions step-by-step to get a finished product. Explain that a computer must have directions or there will be no **output** (i.e., product).

Discuss and demonstrate the fact that **a computer needs instructions** to operate, by running a computer with and without software.

Discuss and demonstrate that a computer operates on given instructions by **listing and printing a** computer program from a **public domain disk**. Examine the printout of a computer program to find the directions given a computer to print something on the screen, then run the program to see the results.

Have **task cards of** simple programs in BASIC using PRINT statements or procedures in LOGO using the primitives. Type these into a computer system and run them to see the results.

Develop **a set of instructions** to have the students **complete a simple task** such as 'doing the dishes.' Have the students complete the task following the exact instructions. Mix the instructions up and have the students try to complete the task. Explain that computers need step-by-step directions in the correct order.

Demonstrate that instructional software is broken down into the following categories:

a. Drill and practice
   - Allow for individualized instruction
   - Give immediate reinforcement

b. Tutorials
   - Allow for individualized instruction
   - Introduce new concepts
   - Provide for mastery of learning
   - Give immediate reinforcement

c. Simulation
   - Produce real or imaginary events
   - Compress years and hours into minutes
   - Test hypothesis
   - Provide for problem-solving through trials and errors

d. Educational games
   - Motivate
   - Develop logical thinking

e. Utility programs
   - Programs which make tedious jobs easier (word processing, data bases, spread sheets, etc.).

Have students write in their notebooks the different types of "software," and identify a package for each type listed.

Discuss that some software **may be purchased** and some **may be written** by them or another person. Discuss the advantages both in buying software and writing your own programs.

a. Buying software saves time. It allows the students to use a computer even if they don't know how to write a program.

b. Writing your own program allows you to instruct the computer to do exactly what you want it to do.

Demonstrate and show **how software is advertised** in magazines and catalogs. Discuss, "How to order a program from the magazine and why it is better to preview the software before purchasing it?" Write a letter to order a software program from a magazine. Or fill out a sample purchase order form.

COMPATABILITY

Discuss the fact that **software operates only in systems** for which it is designed. Some software packages may work in more than one system, but no package works in all systems.

Demonstrate an unsuccessful attempt to load software in an incompatible system. Stress that the system will not accept the instructions.

Using available **commercial software catalogs,** find and list the names of five (5) software packages compatible with the computer system being used.

Compare the fact that **different cultures speak and understand different languages** to the fact that different types of computers interpret instructions differently. Stress that the instructions must be given in a form that is understood by each specific type of computer.

COPYRIGHT/PUBLIC DOMAIN

Discuss **how software can be legally obtained** (i.e., self-developed, purchased, public domain).

Discuss the difference **between legally obtained software** and that which is pirated.

Find copies of **public domain software in computer magazines.** Bring them into class to share legally.

Show the Walt Disney sound/filmstrip Pirates available at FDLRS/Alpha for preview. Discuss the contents.

Discuss **other means where one might find software** (i.e., computer clubs, networking, library).

Show the students materials from **computer clubs** and newspapers which show a list of available software programs. Many computer clubs in Palm Beach County meet at the Science Museum. Call for information.

Discuss **the telephone directory and how to use it.** Look up three commercial stores which carry software in your community. List the name of each store, the address, and phone number on the blackboard.

Ask students to discuss the difference between the physical appearance of "public domain" and **"commercial" software.** Points to discuss should include:

- a. Documentation/lack of documentation (instructions, manuals, etc.)
- b. Disk labeling
- c. Copyright statement
- d. Cost
- e. Author/publisher
- f. Source

Have students list the characteristics of "public domain" and "commercial software" on their individual charts.

FORMAT

Discuss the fact that **a magnetic medium is completely blank** before it is used. Stress that disks must be prepared to receive information.

Discuss and demonstrate the use of the **DOS command FORMAT** to setup the disk to receive information. Discuss the fact that FORMAT checks the disk for bad spots, and builds a directory to hold information about the files that will eventually be written on it.

Review and discuss with students **the steps in initializing** a diskette for IBM.

Demonstrate to class the actual initializing of a blank diskette.

a. Have students sit around the computer system you will be using.
b. Have students read off each step as you do it.
c. If students can't rememvber the steps, remind them that they are posted on the bulletin board and also written on their papers.

Explain to students that **certain programs need an extra blank diskette** to help store information. In order to store information on the diskette, it must be able to communicate with the program.

Explain to students that a blank diskette is like a blank cassette tape. Demonstrate by inserting a blank cassette into a cassette player and turning it on. Ask students to tell you why no sound comes from the tape player. Relate this to the blank diskette not making the computer run programs.

BACKUP

Discuss the **importance of making a backup copy** of a storage medium. Include in your discussion the ways data can be lost, events that may occur because of lost data, and ways to prevent the loss of data.

Demonstrate **the procedure for making a backup copy** of important materials.

Discuss the backup policies of different software vendors, including such options as making no backups to allowing unlimited copies to be made. Stress the need to adhere to the licensing agreement on a software package.

List steps to take to prevent the loss of data.

List ways that data can be lost or destroyed.

DOCUMENTATION (This concept is NOT covered in the textbook)

Discuss **the need for documentation** (i.e., an explanation of what the program does, its major features, etc.).

Discuss **what information a computer user would need to know** before using a program.

Display several software packages that **include program documentation.** Point out the instructions in each software package that help the user to run the program successfully.

Explain that sometimes the software documentation is stored **on the software** and sometimes it is printed **in a manual.**

List **several features** that a set of program instructions would need to make it easier to use.

DIRECTORY/CATALOG

Define and discuss the vocabulary word **directory** (i.e., a command word that lets you see what a diskette contains).

Demonstrate to students **how the command directory, (DIR) works** by insert a system master diskette into the disk drive. After the red light goes off and you have the DOS prompt (A>) and

the cursor, type DIR for directory and press Enter. A list of files stored on the diskette are listed on the screen. Discuss with students the results of what you just did. Explain to students that if a diskette is not initialized, the command will not produce the same results as it did with the System Master. To demonstrate this insert and boot a blank diskette. A DOS prompt will appear. The computer will continue to display a cursor, or give the message ":non-system diskette or default to BASIC stored internally in the ROM of the computer.

Provide students with copies of the self-help, take-home packet for study or homework.

COMPUTER SOFTWARE
TEXTBOOK WORKSHEET **5-7**

NAME: ______________________________ **PERIOD:** __________

Chapter 5

Directions: This worksheet accompanies Chapter 5 - Computer Software, in your textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Fill in the missing information or words according to the specified pages and paragraphs.

Begin on **Page 72**

1. A ________________________________ imitates real-life events. (Paragraph 1)

2. You know that today's computers are ____________________ ________________ ________________ at all. They can ______________________________ do anything by themselves. They ____________________ to be ____________________ what to do and ________________ to do it. (Paragraph 6)

3. Computers have to be given very specific ____________________ called ____________________. (Paragraph 6)

4. Each particular set of instruction is called a ________________ (Paragraph 6)

Page 73

5. Machine language, is the only language that any computer really ______________. (Paragraph 1)

6. When you buy a microcomputer with a ______________________ drive, you will also get a special program called the ____________________ ____________________ (DOS). (Paragraph 2)

7. DOS directs and manages the operation of the different parts of a computer system, such as the ____________________, the __________________ ______________________, and the __________________. (Paragraph 3)

8. Before you use any new disk, you need to prepare the disk to accept the program or information you what to store on it, by doing what to the disk? ______________________________ (Paragraph 5)

Page 74

9. Another word for FORMATTING is _________________________ a disk. (Paragraph 1)

10. Another word making a copy of your disk is a .... _______________ (Paragraph 2)

11. Why would you want to REMOVE A PROGRAM FROM A DISK?
____
____
(Paragraph 3)

12. To "_______________________" a program from the disk into the computer itself, is sometimes called "___________________" or "powering up the system." (Paragraph 4)

Page 76

13. While system software consists of programs your computer uses, ____________________ software, which are programs that you BUY, consists of programs that you use. (Paragraph 1)

14. Three most common means for storing programs or information on large computer systems are: (Paragraph 4)
    1. ____
    2. ____
    3. ____

15. The most common storage device for MICROCOMPUTERS is the ___________________ disk, which is usually ___________ inches in diameter. (Paragraph 5)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 72-76 AND RECORD YOUR ANSWERS HERE.

16. What is the name given to
    a. computer instructions in general? ________________________
    b. a particular set of computer instructions?___________________

17. What is the name for programs that control how a computer works.

    ____

    List two examples of such programs.
    a. ____
    b. ____

18. What type of application software would teach you how to play chess?

    ____

19. List the 15 things you can do with a computer found on Pages 77 to 79.

    1. ____
    2. ____
    3. ____
    4. ____
    5. ____
    6. ____
    7. ____
    8. ____
    9. ____
    10. ____
    11. ____
    12. ____
    13. ____
    14. ____
    15. ____

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Page 80

20. The jacket protecting the FLOPPY DISK protects the disk from ________________________, ____________________, and ___________________________________--things that can ____________________________________ the information stored on the disk. (Paragraph 5)

21. In the center of the disk is a hole, called the _________________ _____________________________ hole. (Paragraph 5)

22. As the disk spins inside the DISK DRIVE, the "___________________" of the disk (sometimes called the "______________________ / ________________________ head") touches the floppy disk through this opening in the floppy disk's protective covering. (Paragraph 6)

23. It is through this opening that information is ___________________ onto the disk. (Paragraph 6)

Page 80

24. The WRITE / ________________________________ NOTCH can be covered with special tape, so that you cannot store any more _______________ or information on the disk. (Paragraph 7)

25. When a disk is ________________________, its surface is first divided into circular ____________________. (Paragraph 10 continues onto Page 81 - first paragraph)

Page 81

26. Each tract is further divided into separate sections called ____. (Paragraph 2)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

27. From **Page 82**'s diagram, list the 8 rules that are given for the proper care of floppy disks.
    1. ______________________________
    2. ______________________________
    3. ______________________________
    4. ______________________________
    5. ______________________________
    6. ______________________________
    7. ______________________________
    8. ______________________________

Page 83

28. When loading programs into your computer, it is important to understand that with some computers you INSERT the disk into the disk drive ____________________, and then TURN ____________________ the power switch. (Paragraph 1)

29. With other computer system, you need to TURN ____________________ the computer ____________________, ____________________ insert the disk into the disk drive and press a special key called the ____________________ key. (Paragraph 1)

Page 84

30. There are two ways to tell that a program is being loaded from a floppy disk into your computer. List them. (Paragraph 2)
    a. ______________________________
    b. ______________________________

31. NEVER take the disk out of the disk drive when the ____________________ ____________________ is on. (Paragraph 2)

32. When a program is loaded, and the humming sound stops with the red light going out, does this mean the program has been erased, or removed, from the disk? (Circle one) YES NO (Paragraph 3)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

33. Once the program is loaded, can you usually take the disk out of the disk drive and put it away in a safe place? (Circle one) YES NO
(Paragraph 3)

34. From Page 84, list the four steps for loading a diskette.
a. ____________________
b. ____________________
c. ____________________
d. ____________________

Page 85

35. What will happen to the program if you have taken the disk out of the computer and turned the computer off? ____________________
(Paragraph 1)

36. After you have loaded a program into the computer, you may then see a list of the different parts or " ____________________"
of the program that is called a ____________________
(Define the answer: ____________________
____
(Paragraph 3)

37. Every disk has another kind of table of contents called a
____________________ or CATALOG. (Define the
answer: ____________________
____
(Paragraph 4)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 80-85 AND RECORD YOUR ANSWERS HERE.

38. What are these parts of a floppy disk for?
    a. drive spindle hole ______________________________
    b. head access opening ______________________________
    c. write/protect notch ______________________________

39. What is the difference between a TRACK and a SECTOR on a floppy disk? ______________________________
____

40. How can you tell when a program is being loaded into the computer from a disk? ______________________________
____

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

COMPUTER SOFTWARE
SAMPLE TEST

NAME:____________________ PERIOD:____________________

SOFTWARE PROGRAMS

1. What is a computer program?______________________________

____

2. List four (4) popular computer programming languages.

____

____

____

____

3. List four (4) types of storage media for software.

____

____

____

____

4. Name the two (2) major categories of computer software.

____

____

5. Name the two (2) types of computer documentation.

____

____

COMPUTER SOFTWARE **5-14**
SAMPLE TEST

NAME:____________________ PERIOD:____________________

CHECKING YOUR KNOWLEDGE ON CARE AND HANDLING OF SOFTWARE

Circle T for TRUE or F for FALSE for each of the following statements.

(Note: If a question does not refer specifically to the 3 1/2" or 5 1/4" disk, then, the question must be TRUE or FALSE for either size diskette).

T F 1. A good place to keep your diskettes while not in use is on top of the monitor.

T F 2. Use paper clips or rubber bands to hold several diskettes together.

T F 3. Always hold the 5 1/4" diskette by the label.

T F 4. Keep diskettes out of direct sunlight and away from other sources of heat.

T F 5. It is not necessary to label your diskettes.

T F 6. Diskettes can be removd from the computer when the red light is on and the disk drive is running.

T F 7. Keep diskettes away from magnets, including magnets in electrical appliances.

T F 8. The 3 1/2" diskette is the new standard size disk for computers.

T F 9. The 3 1/2" diskette is totally protected so you don't need to worry about its care.

T F 10. Insert diskettes slowly and carefully into the disk drive with the label facing up.

NAME:____________________ PERIOD:____________________

COMPUTER SOFTWARE

DIRECTIONS: Answer the following questions by putting True or False in the blank provided at the end of the statement.

1. Computer programs refer to software. ____________

2 Computer software can be seen and touched. ____________

3. Computer software can be stored on cassette tapes. ____________

4. Computer software can be stored on a diskette. ____________

5. Computer diskettes cannot be damaged by heat. ____________

6. Computer software can be stored permanently on a chip. ____________

7. Computer software that has been published is protected by copyright. ____________

8. Computer diskettes should be stored horizontally in a stack. ____________

9. Computer software publishers usually allow buyers to make one backup copy. ____________

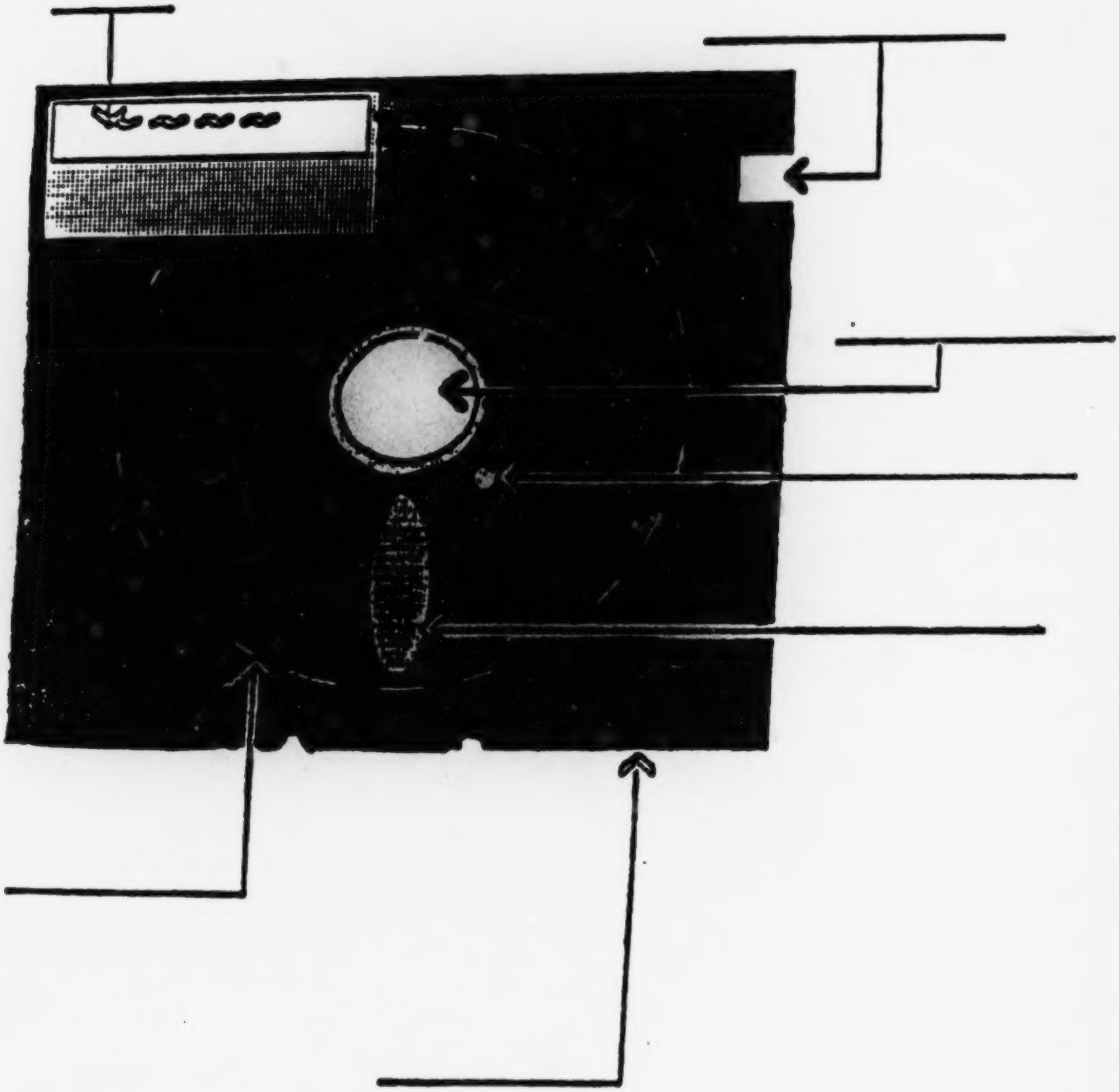
10. Computer software is the instructions for the computer. ____________

COMPUTER SOFTWARE
SAMPLE TEST

NAME: ______________________________ **PERIOD:** __________

LABEL THE PARTS OF A 5.25" DISK

FLOPPY DISKETTE



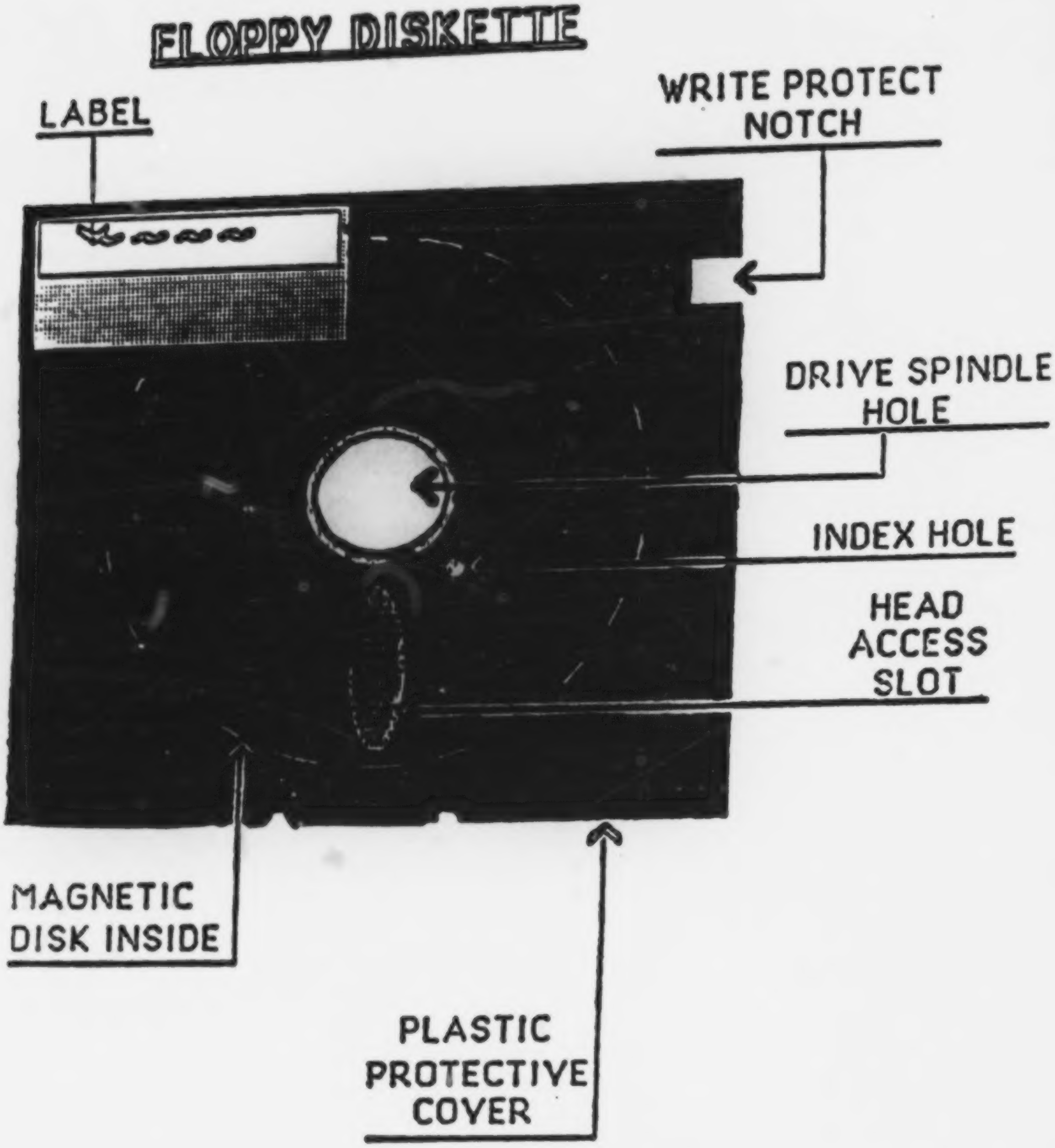
STUDY GUIDE

Select Study Sheets and Worksheets from the Study Guide section to provide students with take-home material to reinforce skills learned in class.

Reproduce only those materials that relate to the needs and ability level of the student. Use the Sample Tests to ensure student mastery of the objectives.

NAME: ______________________________ PERIOD: ____________

DO YOU KNOW THE PARTS OF A 5.25" DISK


FLOPPY DISKETTE
LABEL
WRITE PROTECT NOTCH
DRIVE SPINDLE HOLE
INDEX HOLE
HEAD ACCESS SLOT
MAGNETIC DISK INSIDE
PLASTIC PROTECTIVE COVER

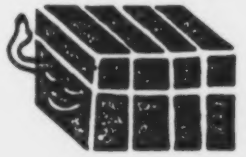
COMPUTER SOFTWARE
STUDY SHEET

5-18

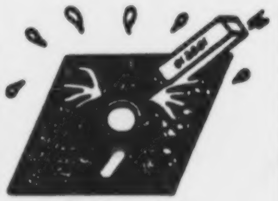
NAME: ______________________________ **PERIOD:** __________

HOW TO HANDLE YOUR DISKETTE!

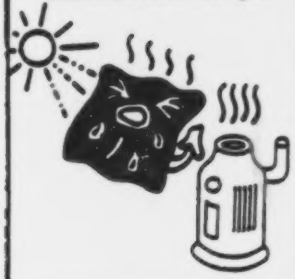
.Disks not being used should be stored vertically in their box.



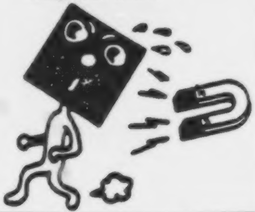
Do not use erasers on disk.



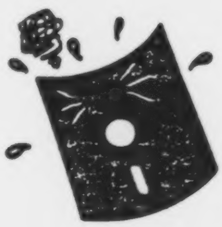
Do not expose the disk to excessive heat or sunlight.



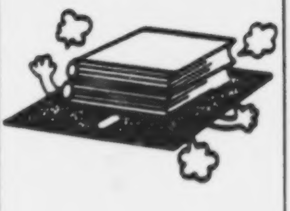
Do not use magnets or magnetized objects near the disk.
Data can be lost from a disk exposed to a magnetic field.



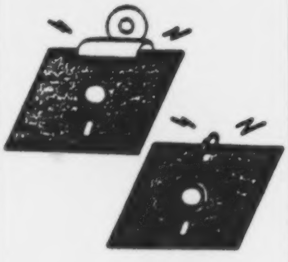
Do not bend or fold the disk.



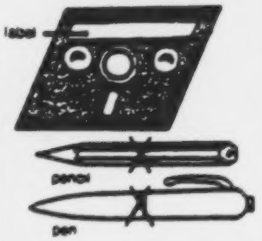
Do not place heavy objects on the disk.



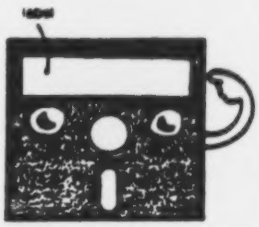
Do not use rubber bands or paper clips on the disk.



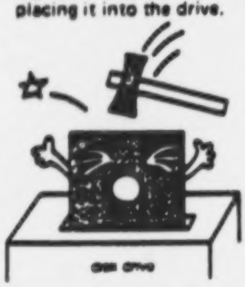
Do not write on disk label with pencil or ball-point pen. Use felt-tip pen only.



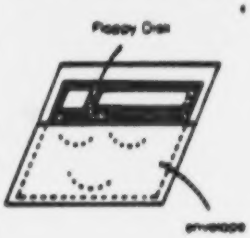
Apply index label to the right of our label.
Do not use labels in layers.



Insert carefully, by grasping upper edge and placing it into the drive.



Keep disk in its protective envelope when not in use.



NAME:____________________ PERIOD:____________________

SOFTWARE STORAGE MEDIA

A program is entered into a computer by using an **input device.** Programs we write ourselves can be typed into the computer using a **keyboard**. We can make a **hardcopy** of our program by using a printer.

Just as we can record music on cassette tapes, computer programs can be stored on tape and then loaded into the computer. Since **cassette tapes are very slow**, floppy diskettes are most often used for program storage.

Diskettes can be compared to records. A diskette is like a cassette tape flattened out and made into a circular disk. The disk drive moves a magnetic head back and forth over the diskette to read the part where the information is stored. The magnetic diskette is covered by a protective **jacket** but it must still be protected from heat, magnets and dust.

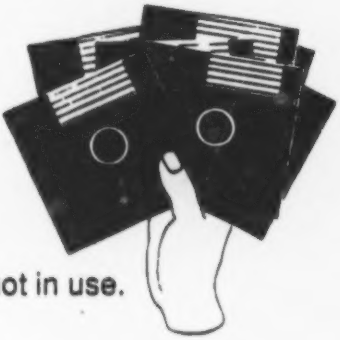
Computer software can also be stored inside plastic cartridges that can be plugged into the computer. These **cartridges** are difficult to damage and the programs stored on them can be quickly loaded into the computer memory. The cartridges are sometimes called **ROM packs**.

Computer system software is stored permanently on memory chips inside the computer. These special chips are called **ROM chips.**

NAME:____________________ PERIOD:____________________

CARE AND HANDLING OF SOFTWARE

It is important that we take proper care of computer diskettes. Diskettes are covered with magnetic material on which we store programs. Parts of the programs may be destroyed if this magnetic surface is damaged by cold, heat, magnets, or other mistreatment. Here are some rules to follow in caring for 5.25" floppy diskettes.



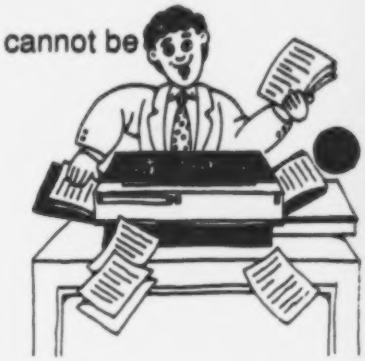
- Handle the diskette by the **label**.
- Use **write-protect tabs** to prevent changes.
- Apply an index **label** to the right of the existing label.
- Keep diskettes in their **protective envelopes** when not in use.
- Diskettes should be stored **vertically**.
- Avoid **moisture** and excessive **temperatures** around diskettes.
- Do **not bend** or fold diskettes.
- Keep **magnetized objects away** from diskettes to prevent loss of data.
- Do **not use paper clips** or rubber bands on diskettes.
- Do **not write on diskettes** with ball-point pens or pencils. Use a felt-tip pen.
- Do **not use erasers** on diskettes.
- Do **not place heavy objects** on diskettes.
- Always **remove diskettes from the disk drive** before you turn off the computer.

COMPUTER SOFTWARE **5-21**
STUDY SHEET

NAME:__________________ PERIOD:__________________

BACKUP COPY AND COPYRIGHT

Public domain software is available free of charge to the public. However, most computer programs are copyrighted. Remember the copyright symbol. © The law says that you cannot copy, change, or sell the programs that have a copyright. There is one law that will allow you to make one copy of a copyrighted program. The one copy is called a "backup copy" or the "archival copy". This backup is to be used only if the original fails. Floppy disks can be mishandled. If they are damaged, they cannot be used. So, it is important that a second copy be available.



Circle if the statement is T for TRUE of F for FALSE.

T F The law allows you to copy a commercial disk and give it to a friend.

T F The law allows you to copy a commercial disk as a backup.

T F The archival copy can be used along wiht the original any time that you want.

T F It is against the law to violate the copyright of a software program.

T F You can change the program code in software that is copyrighted.

COMPUTER SOFTWARE
STUDY SHEET

5-22

NAME:____________________ PERIOD:____________________

SOFTWARE DOCUMENTATION

Software documentation is the **information** that is provided with the software program to explain all that is needed (**requirements**) and the **directions** for its use.

Documentation can come in the form of a manual (**external**) or as part of the program (**internal**).

Documentation should include:

1. **Program requirements**- machine type, memory (K), any additional peripherals and format required.
2. **Purpose**- explanation of the purpose of the program or package. Application software such as a word processor, must meet a specific need.
3. **Description**- describes the program and indicates the intended population for whom it is designed.
4. **Instructions**- explain how to use the program or package. Any special codes or key functions should be made clear.

COMPUTER SOFTWARE
WORK SHEET

NAME: ______________________________ **PERIOD:** __________

Hardware or Software?

Decide whether each of the following is an example of hardware or of software. Write the letter **H** next to the items which are **hardware**. Write the letter **S** next to the items which are **software**.

__________ 1. A Bank Street Writer program

__________ 2. a monitor

__________ 3. a computer

__________ 4. a disk with a program you created and saved

__________ 5. a Sticky Bear Numbers program

__________ 6. a division and multiplication program

__________ 7. a FrEdWriter Disk

__________ 8. a disk with a LOGO program on it

__________ 9. a printer

__________ 10. a keyboard

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NAME: ____________________________ **PERIOD:** __________

Important Instructions

The computer always needs to have instructions in order to operate. Sometimes you need instructions, and sometimes you don't. Sometimes you know how to do whatever needs to be done.

Read each of the paragraphs below. Decide whether or not you would like instructions, and then answer the question.

1. You get a new game for your birthday. None of your friends has this game, and you have never seen it before.

   Do you want instructions? yes no

2. Your mother tells you to walk the dog. You have walked the dog many times before.

   Do you want instructions? yes no

3. You have a new book to read.

   Do you want instructions? yes no

4. You are given a sheet with some homework problems. You don't know how to do it.

   Do you want instructions? yes no

5. You want to visit a new museum. You have never been there before and do not know how to get there.

   Do you want instructions? yes no

6. You eat some delicious pie at your friend's house. His mother gives you a list of ingredients to give to your mother.

   Do you want instructions? yes no

7. You want to write a letter to a friend.

   Do you want instructions? yes no

8. You want to watch a special TV program.

   Do you want instructions? yes no

9. You buy a new software program for your computer.

   Do you want instructions? yes no

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COMPUTER SOFTWARE
WORK SHEET

NAME: ______________________________ **PERIOD:** __________

OS Does It

The operating system in your computer is very important. Circle **yes** if the operating system controls these things. Circle **no** if something else controls it.

Yes No 1. Puts the cursor on the screen.

Yes No 2. Turns the computer on.

Yes No 3. Formats the disk.

Yes No 4. Puts the disk in the disk drive.

Yes No 5. Erases a disk.

Yes No 6. Turns the printer off.

Yes No 7. Tells you when there is a syntax error.

Yes No 8. Tells you when to push **return**.

Yes No 9. Tells the disk drive to save information on a disk.

Yes No 10. Tells the disk drive to find information.

Yes No 11. Organizes the sections of the disk.

Yes No 12. Turns the monitor on.

Name four things that the operating system of a computer does:

____

____

____

____

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COMPUTER SOFTWARE
WORK SHEET

NAME: ______________________ PERIOD: __________

Compatibility Concerns

Software must be compatible with the computer on which it is used. Tell whether or not the software listed is compatible with each computer. Circle **YES** if it is compatible. Circle **NO** if it is not.

IBM Computer

YES NO 1. A word processing program for the IBM

YES NO 2. A program saved on a Commodore 64

YES NO 3. A program saved on an IBM

YES NO 4. A cassette tape for a Radio Shack

YES NO 5. A graphics program for the IBM

YES NO 6. A program written by a friend on his Apple

Apple Computer

YES NO 1. A program for an IBM computer

YES NO 2. A graphics program for an Apple computer

YES NO 3. A game designed for a Commodore 64

YES NO 4. A word processing program for Apple

YES NO 5. A musical cassette recording

YES NO 6. A program saved on a friend's Apple computer

YES NO 7. A disk from the Apple company

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COMPUTER SOFTWARE
WORK SHEET

NAME: ______________________________ **PERIOD:** ___________

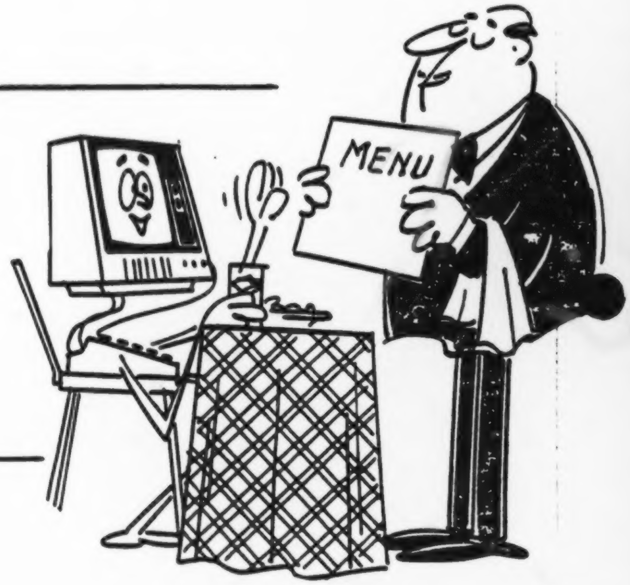
Pick One!

A menu lets you choose the program you want from the computer disk. Circle the program you would pick from each menu below if you saw it on your computer screen. Then write what you think the program would be about.

MATH FUN

1. Addition
2. Subtraction
3. Multiplication
4. Division

____



ART SHOW

A. Lines
B. Dots
C. Shapes
D. Colors

____

Magic Time

- The Wizard
- The Black Hat
- The Disappearing Rabbit
- Abracadabra

____

How would you pick these programs on your computer?

____

____

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NAME: ______________________________ **PERIOD:** __________

Read All About It

Read the following paragraph from the user documentation for a program called "Magic Printing Machine." Then answer the questions.

DOCUMENTATION
for "Magic Printing Machine"

This program will let you make signs and greeting cards. A sign is 8 1/2" by 11" in size. A greeting card uses the same size paper, but must be folded in half and then in half again, so the picture is really 1/4 of the page in size. You can choose from over 50 pictures for your sign or your card, and you can add words in three different sizes. This program will run on a ROBOTIC computer. You must have a printer and a joystick.

1. What kind of computer must you have to use this program?
2. How many pictures can you choose from?
3. Can your words be written in more than one size?
4. What size paper do you need to make a card?
5. What size paper do you need to make a sign?
6. If you fold the paper in half twice, what are you making?
7. Should you buy this program if you have a joystick but you do not have a printer?
8. What is the name of this program?
9. Do you think there are more instructions? Why or Why not?

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NAME: ____________________________ **PERIOD:** __________

It's In There Somewhere

Instructions: Try to find these computer words in the puzzle below. They can be written across or up and down.

INSTRUCTIONS
COMPUTER
ORDER
INPUT
MONITOR
PROGRAM
DISK
PRINTER
OUTPUT
FAST
SOFTWARE
DISKDRIVE
HARDWARE
KEYBOARD

Here are some clues to help you. The first letter of the word is given.

Speed at which the computer operates f ______________
It can also be called software p ______________
Looks like a typewriter k ______________
The computer must have them to work i ______________
Where you look to see your work m ______________
It can also be called a program s ______________
What you need to run a program c ______________
Getting information from the computer o ______________
Where the program can be stored d ______________
What you need to put the disk in to use it d ______________
What instructions must be done in o ______________
The piece of hardware that prints p ______________
Needs software to operate h ______________
Giving information to the computer i ______________

Z	I	K	N	Y	W	V	K	L	E	N	N	Q	K	F	H	U	I	Y	I	R
D	N	E	Q	Z	U	D	X	P	Q	H	L	X	R	L	K	I	R	I	N	X
U	P	Y	G	I	V	I	A	T	B	W	T	F	I	B	D	N	A	L	B	S
R	U	B	Z	G	A	S	R	K	X	I	Y	A	V	L	Y	S	J	C	N	K
H	T	O	B	W	J	K	N	N	V	D	A	S	P	Q	Q	T	U	T	E	T
A	T	A	U	Q	J	F	A	I	E	H	Y	T	B	Q	K	R	P	J	G	E
Y	I	R	A	K	H	P	P	H	T	R	D	S	U	T	K	U	X	B	G	F
L	O	D	P	G	G	V	M	T	D	T	I	J	E	W	R	C	N	G	L	D
I	L	J	R	X	Q	V	E	P	I	K	S	M	G	H	B	T	A	H	E	U
J	C	S	O	E	W	G	T	O	B	A	K	D	G	M	Q	I	N	H	M	S
J	E	M	G	Y	X	C	S	V	V	X	D	V	L	S	R	O	V	S	N	Z
H	G	N	R	W	O	N	O	E	A	O	R	I	A	F	T	N	S	C	Z	N
B	O	V	A	G	I	K	F	N	B	B	I	O	I	U	J	S	B	X	M	H
Q	L	A	M	P	C	F	T	L	J	F	V	J	Z	W	E	B	A	K	O	I
V	S	F	A	E	V	V	W	V	D	Y	E	S	P	O	R	M	K	G	N	W
C	Q	S	D	Q	E	E	A	P	F	Z	G	M	S	R	H	P	Q	I	I	S
C	K	Z	X	L	M	C	R	O	B	Y	V	H	Q	D	K	E	Y	H	T	I
O	U	T	P	U	T	P	E	U	H	P	N	L	F	E	E	E	Y	Q	O	C
F	T	Q	P	R	I	N	T	E	R	Y	A	N	V	R	I	L	S	S	R	W
R	O	M	R	J	F	H	A	R	D	W	A	R	E	L	H	T	L	R	V	X
P	Q	Q	Y	N	K	L	N	K	B	G	E	O	C	O	M	P	U	T	E	R
H	U	R	Z	X	U	U	Z	U	N	N	V	L	G	B	Y	J	Y	H	D	C

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COMPUTER SOFTWARE
WORK SHEET

5-30

NAME: ______________________________ **PERIOD:** __________

It's in the Documentation!

Put an X in the box in front of the kind of information you'd expect to find in the documentation for a computer program:

- ☐ the history of the computer
- ☐ the title of the program
- ☐ the purpose of the program
- ☐ sample screens
- ☐ information about the kind of computer the program will work on
- ☐ whether or not you need a printer to use the program
- ☐ information on how to use the program
- ☐ copyright information
- ☐ your name and address
- ☐ information on how to handle problems that may occur
- ☐ what the program will do
- ☐ how much memory your computer must have to use the program

On another sheet of paper, make a list of things you would expect to find in user documentation. Then ask your teacher or media specialist for the documentation for a program and put an X by the items on your list you can find. Make another list of other things you may find.

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PACKET: SOLVING PROBLEMS WITH COMPUTERS

INTENDED OUTCOME ADDRESSED IN THIS UNIT:

The student will identify the purpose for which programs are written.

The student will identify the problem to be solved in a given situation.

The student will identify the steps to follow in solving a real-world problem situation.

The student will identify whether information is sufficient to solve a real-world problem.

The student will identify information that is extraneous in a given set of simple instructions.

The student will find and correct the errors in a simple set of instructions which contains insufficient or extraneous information.

The student will construct a flowchart in order to develop a logical sequence of instructions to solve a real-world problem.

The student will determine a logical sequence for a given set of instructions to solve a problem situation.

The student will follow a logical sequence of instructions to solve a real-world problem situation.

The student will specify the steps to a solution given a task that requires a number of steps.

The student will predict the outcome of a logical sequence of instructions with no dicision-making points.

INTRODUCTION

This packet contains teacher strategies, study sheets, sample tests, and a self-help module for students to take home.

Included in this unit are Textbook Worksheets which are correlated by page and paragraph to the Scholastic Computing textbook. These worksheets have been used successfully with students who have poor reading and study skills. They provide a structured study guide to the information in the textbook. Scholastic Inc. has granted permission to copy these sections of the textbook.

VOCABULARY

algorithm
ASCII
BASIC
binary digit
binary number system
byte
COBOL
coded
computer assisted instruction (CAI)
decimal number system
documentation
flowchart
FORTRAN
high-level language
logical
Logo
machine language
Pascal
PILOT
program
programmer

SUGGESTED TEACHER ACTIVITIES

Select appropriate classroom and take home activities needed to implement and reinforce the objective. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your school media specialist, from the Palm Beach County School Board Film Library or from your personal collection.

Discuss the fact that **computers have instructions to operate** and that these instructions are called programs. The program for the computer is a set of instructions to solve a problem.

Discuss the **problem-solving process** and its relationship to programming. Use Study sheet 6-12.

a. Define and analyze the problems
b. Determine the logical steps required to solve the problem
c. Place the steps in a logical order
d. Code the steps into a programming language
e. Test the program and correct any errors
f. Document the program

Discuss the fact that the computer **can only be used to solve a particular problem if a computer program has been written** to tell the computer how to solve the problem.

Discuss and list examples **where a computer's ability will help** in solving problems.

Show the SVE sound/filmstrip Understanding Programming. Discuss the contents.

Explain the primary **reason for learning to write a program** is that a student may use a computer to solve problems that would take much longer to solve without one.

Introduce students to a series of experiences that require them to pick out **what information is needed** to solve the problem at hand.

Collect **pictures of problem-solving situations** to share with the class. Have class members identify the problems to be solved in each picture.

Identify the real-world problem of **averaging the grades of students.** Demonstrate by hand, then by using the computer.

Analyze story problems in arithmetic and identify the problem to be solved.

Discuss or list the steps involved in such real-life situation as:

a. Brushing your teeth.
b. Putting on socks and shoes.
c. Sharpening a pencil

Present **four or five steps for solving a given problem**. Include one related, but extraneous step. Ask which step does not belong and why.

Discuss the fact that a problem cannot be solved if **all information** is not present.

Present students with problems to be solved and have them determine exactly what pieces of information are necessary. Use an example problem, such as gas mileage computations. Give a list of individual pieces of information needed to solve the problem. State the desired conclusion of the problem, for example, compute cost-per-mile for gasoline in miles per gallon, etc. Include in the list of information more information than is needed for the solution of the problem.

a. Discuss the steps needed to accomplish the task.
   1. Number of miles driven
   2. Number of gallons of gas used
   3. Cost per gallon of gas

b. Through discussion have the student identify and label each piece of data as either (1) required to solve the problem (2) not needed to solve the problem.

Present the **definition of "debug"** as the correcting of a set of instructions.

Develop a bulletin board that illustrates **flow-chart symbols.** Then discuss and define the following symbols. Use work sheet 6-13 or 6-17.

SYMBOL	MEANING
oval	start or end
parallelogram	input/output
rectangle	information
diamond	decision (yes/no)
arrows	show direction of data flow

Distribute **sample flowcharts** and discuss them. Use worksheets 6-14 and 6-15.

Work in pairs to construct flowcharts for simple tasks such as:
   a. To feed the dog
   b. To watch TV.
   c. To draw a square or a triangle

Discuss the fact that to solve a problem, the instructions must be **followed in proper order** to obtain accurate results.

Demonstrate **by example a case where an incorrect answer is obtained** by following instructions out of sequence.

Provide sets of **instructions out of sequence** and have students arrange them in correct order.

Form teams of two. Have one student act as a robot following directions given by the other student for such daily activities as opening a book or pouring a glass of milk.

Present **flowcharts containing no decision-making points.** Discuss the outcome(s) for each activity charted.

Introduce the **LOGO language** and the **turtle graphics mode.** Write several procedures for drawing shapes, then have the students predict the results.

Example:

```
FD  70
RT  90
FD  70
RT  90
FD  70
RT  90
FD  90
```

Use the LOGO language to **write a procedure** to draw a geometric shape. Give the procedure to another student to make a drawing of the predicted result.

Many people, including students, do not realize the importance of good **documentation.** To help demonstrate the purpose of documentation, do the following **activity** with students. Provide a **game that students are not familiar with.** It could be a board game, a card game or a paper - worksheet activty. Provide only the most basic instructions to play the game - or give no instructions at all. Simply **ask students to complete the task.** It might be a good idea to give students a **time limit** - "Complete this activity in 5 minutes." The result should be confusion and frustration because the game cannot be played without directions. Discuss this fact with students. **Correlate** what they have learned for **the need for good documentation to accompany software.** The documentation can be **internal** (built into the software program) or **external** (in a manual).
Provide students with copies of the self-help, take-home packet for study or homework.

SOLVING PROBLEMS WITH COMPUTERS **6-5**
TEXTBOOK WORKSHEET

NAME: ________________________ **PERIOD:** __________

CHAPTER 6

Directions: This worksheet accompanies Chapter 6 - Solving Problems with Computers, in your Textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Begin work on **Page 92**

1. No matter what kind of problem you want to solve....there are _______ __________ things you need to do _____________. (Paragraph 1)

2. You must _____________ the _____________________ clearly. (Paragraph 1)

3. Then, you need to ________________ a plan for ____________ the problem. (Paragraph.1)

4. To solve either problem, you would begin by ___________________ exactly what the problem _____________________. (Paragraph 3)

5. Before you plan a ___________________ to a problem, you need to ___________________ about these questions: What do you want the ___________________ of the problem to be? What _____________ or _________________ will you ___________________ to help you reach that goal? (Paragraph 4)

Page 92

6. List the three questions you need to ask to define and outline a problem. (Paragraph 1)
   a. ____
   b. ____
   c. ____

7. What is a step-by-step plan for solving a problem called?
   ____ (Paragraph 5)

Page 93

8. The ____________________________ or plan you develop should be __________________ . This is a way of doing something that makes ___________________________ . (Paragraph 6)

Page 94

9. When you write an algorithm, it should be as ___________________ and ______________________________ as possible. (Paragraph 1)

10. Once you develop a logical plan or algorithm, it may help to ___________________ a ________________ of it. This is called a ___________________________. (Paragraph 3)

Page 95

11. A _________________ is like a ______________. It shows both the _______________ a computer will follow to solve a problem and the __________________ in which the computer will follow these steps. (Paragraph 1)

12. A flowchart is made up of ___________________ shapes or symbols. (Paragraph 2)

13. ________________________ point from one shape to the next to show how a solution will __________________ from one step to another. (Paragraph 2)

14. An ________________________ is used to show where the program _____________________ and __________________. (Paragraph 3)

15. A ________________________ is used to show that something is to __________________ or _____________________. (Paragraph 4)

16. A ________________________ is used for an instruction to "_________________" or ______________________________ on something. (Paragraph 5)

17. A _________________ is used when there is a ______________ to be made. (Paragraph 6)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Page 96

18. The flowchart shows which instruction involve ________________ or ______________________. It also ______________________ instructions for ____________________ something and for making ________________________. (Paragraph 3)

Page 97

19. From the flowchart, you should be able to answer four questions. List them. (Paragraph 2)
    a. ____
    b. ____
    c. ____
    d. ____

20. A ___________________ is a set of ___________________ for the computer. (Paragraph 3)

21. .....a program must be in a form or "___________________" that a computer can _________________________. (Paragraph 3)

22. ....a program must first be _______________________________ or ________________________ in a computer- programming language. (Paragraph 3)

23. A person who _________________________ a program is called a __________________________________. (Paragraph 3)

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 92-97 AND RECORD YOUR ANSWERS HERE.

24. What is the name for a "map" that shows the steps for solving a problem? ____

25. What symbol is used to show that
    a. a decision must be made in a program? ____________________
    b. information is to be input or output? ______________________

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Checkpoint questions continued

26. What are the first two steps in solving a problem?
    a. ______________________________
    b. ______________________________

27. What word means "a step-by-step plan for solving a problem?" _____

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

SAMPLE TEST

NAME:____________________ PERIOD:____________________

HOW DO I TACKLE A PROBLEM?

Here are the problem-solving steps, but they're in the wrong order: Number them correctly.

____________ Define and analyze the problem

____________ Document the program

____________ Place the steps in a logical order

____________ Code the steps in a programming language

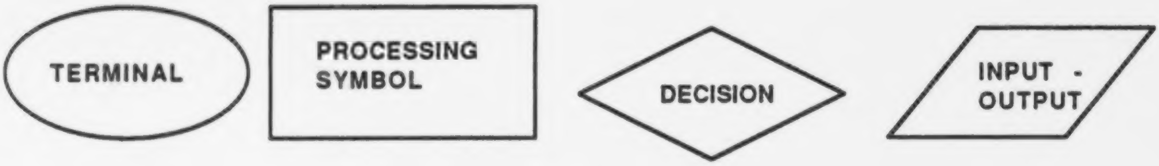
____________ Determine the steps required to solve the problem

____________ Test the program, and correct any errors

SOLVING PROBLEMS WITH COMPUTERS 6-9
SAMPLE TEST

NAME: ______________________________ PERIOD: ________

FLOWCHARTING



DIRECTIONS: Here are some statements from flowcharts. Draw the correct shape box around each of the nine statements.

1. STOP
2. ARE YOU FINISHED WITH YOUR HOMEWORK?
3. TURN ON THE WATER
4. ADD 6 AND 4
5. TAKE GLASS OUT OF THE CUPBOARD.
6. PUT COINS IN BANK
7. START
8. IS THE ANSWER EVEN?
9. SHOW ANSWER ON MONITOR

Create a flowchart to solve one of the following problems.

1. Making a peanut butter and jelly sandwich.
2. Putting on your shoes and socks.

NAME: ______________________________ PERIOD:____

Steps in Problem Solving

Read about Rusty, his problem, and how he solves it. Then answer the questions at the bottom of the page.

Rusty is not doing well in Spanish. He knows he will fail the test unless he studies. He goes to the media center to see what they have to help him. They have a computer program! He finds the computer program, loads it, and runs it. The first time he gets 30 out of 75 correct. The second time he gets 60 out of 75 correct. The last time he runs it he gets all 75 correct. Rusty studies at home, too. He takes the test the next day and gets an A. He writes to his friend Joan about the computer program because he knows she is having trouble in Spanish, too.

1. What is Rusty's problem?

2. What steps can he take to solve it? List them in order:

3. What does Rusty do?

4. What does Rusty do when he does poorly on the program the first time?

5. Is his plan successful? How do you know?

6. What does Rusty do to help someone else who may have a similar problem?

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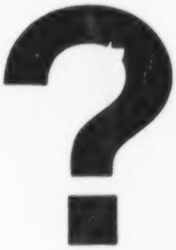
NAME: ____________________ PERIOD:____

That Could Be the Problem

Show the possible problems for each example below by putting an X on the line to show what the problem might be. There can be more than one correct answer for each.

1. The computer doesn't show anything on the screen. What could be the problem?

____The computer has a cold.
____The monitor isn't turned on.
____The monitor is unplugged.
____The computer operator is chewing gum.



2. Your bicycle has a flat tire. What could be the problem?

____The tire needs more air.
____The bike is in the wrong gear.
____The handlebars are bent.
____The tire has a hole in it.

3. Mary goes into the store to buy a copy of her favorite magazine, but she comes out without it. What could be the problem?

____The store is out of that magazine.
____Mary can't sing.
____The cashier can't draw.
____Mary doesn't have enough money.

4. Barbara is late for school almost every day. What could be the problem?

____Barbara doesn't hear her alarm clock.
____Barbara doesn't start to get ready early enough.
____The breakfast cereal is crunchy.
____Barbara likes strawberry jam.

5. Anna wants to print out her report from the word processing program. She can't do it. What could be the problem?

____Anna doesn't have a printer.
____Anna doesn't know how to print her report.
____Anna likes bananas better than oranges.
____The printer doesn't have any paper in it.

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STUDY GUIDE

Select Study Sheets and Worksheets from the Study Guide section to provide students with take-home material to reinforce skills learned in class.

Reproduce only those materials that relate to the needs and ability level of the student. Use the Sample Tests to ensure student mastery of the objectives.

NAME:____________________ PERIOD:____________________

PROBLEM SOLVING IN COMPUTER PROGRAMMING

Here are the problem-solving steps used in programming:

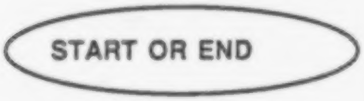
1. Define and analyze the problem
2. Determine the logical steps required to solve the problem
3. Place the steps in a logical order
4. Code the steps in a programming language
5. Test the program, and correct any errors
6. Document the program

SOLVING PROBLEMS WITH COMPUTERS
STUDY SHEET

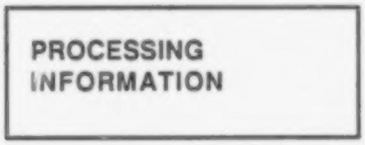
6-13

NAME: ______________________ PERIOD: __________

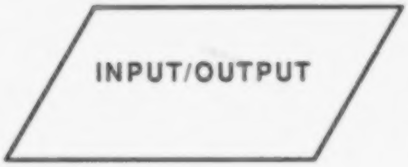
FLOWCHARTING SYMBOLS


START OR END

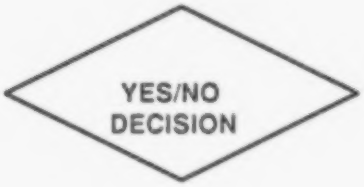
The oval is used to BEGIN or END a program.


PROCESSING
INFORMATION

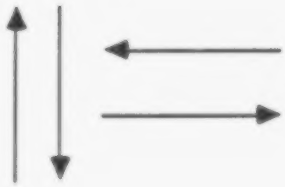
The rectangle is used for information. It is the most used symbol.


INPUT/OUTPUT

The parallelogram is used for input or output.


YES/NO
DECISION

The diamond is used to show a yes/no decision must be made.



Arrows show the direction of data flow.

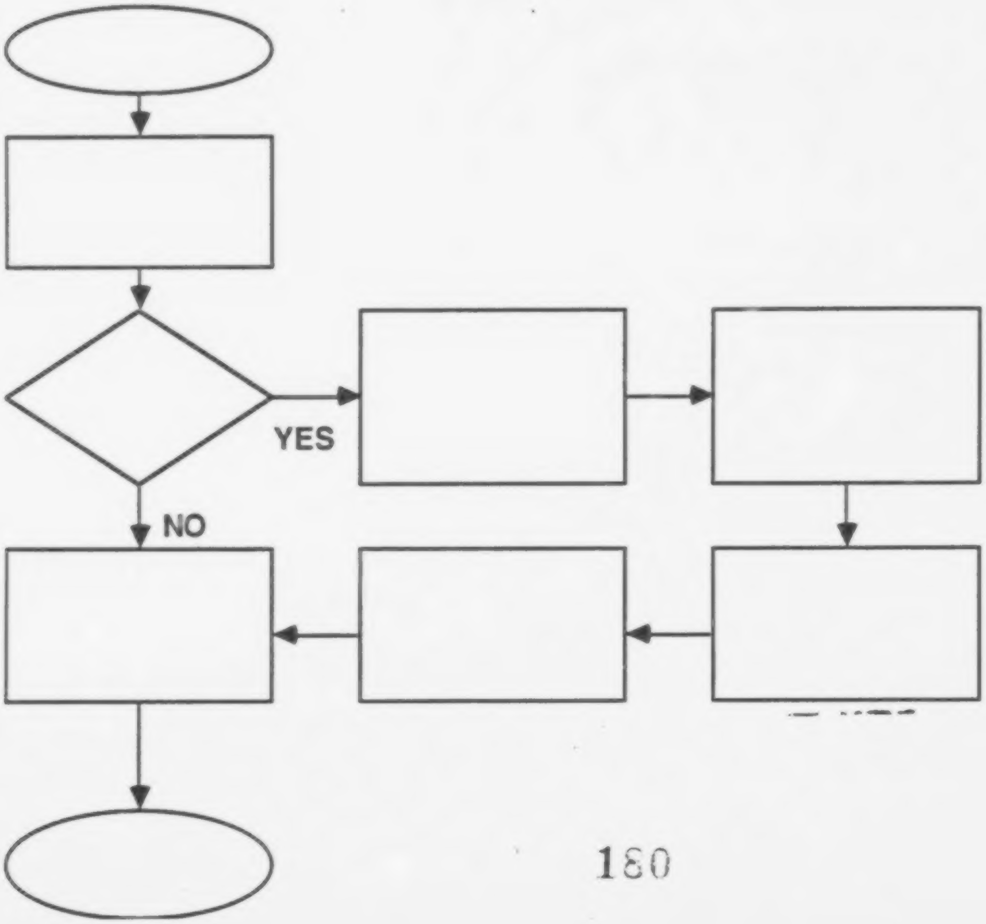
NAME: ______________________________ **PERIOD:** ______________

FLOWCHART EXERCISE

A flowchart shows the steps you follow to do something. The steps for getting a glass of milk are listed below. You are to place each step in its proper place in the flowchart.

Here are the steps:

START
Open the refrigerator door.
Is there any milk?
Take out the milk.
Get a glass.
Pour the milk
Return milk to refrigerator.
Close the refrigerator door.
STOP



NAME:____________________ PERIOD:____________________

THINK ABOUT IT

DIRECTIONS: Use the following steps to make a flowchart that shows how to make a piece of toast. Draw the correct flowchart symbol for each process.

HOW TO MAKE A PIECE OF TOAST

a. Start

b. Get out bread, butter and toaster

c. Place bread in toaster

d. Wait for bread to pop-up

e. Take bread out of toaster

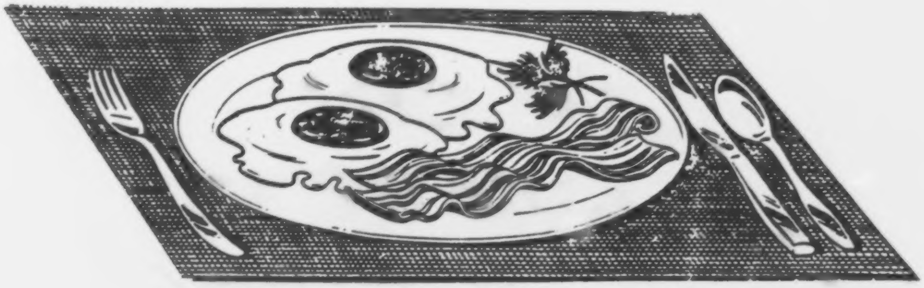
f. Spread butter on toast

g. Eat toast

h. "This is really good"

i. "Do you want another piece?"

J. Stop



SOLVING PROBLEMS WITH COMPUTERS 6-16
WORKSHEET

NAME:____________________ PERIOD:____________________

DEFINING THE PROBLEM

Define the problem in each of the following. Write your answer on the line provided.

1. You just heard the circus was coming to town. You really want to got to see the circus. You have $3.00, but find out tickets cost $5.00.

   The problem: ____

2. Your science teacher assigned a report to do. You are allowed to choose your topic. You have two weeks to complete it.

   The problem: ____

3. You get home from school and find the door locked and no one inside. You reach into your pocket for your key and remember you left it on your dresser.

   The problem: ____

4. You and your friends want to go to the movies Friday night. You ask your parents to give you a ride to the movies. They already have plans to go out and won't be able to give you a ride.

   The problem: ____

5. The alarm didn't ring this morning, so you ended up sleeping in. You know you are going to miss your school bus. You have to be at school today for a big test.

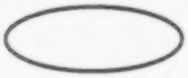
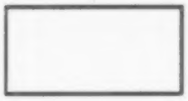
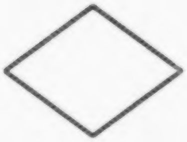
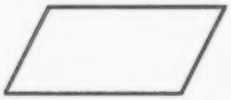
   The problem: ____

SOLVING PROBLEMS WITH COMPUTERS
WORK SHEET

6-17

NAME: ______________________________ PERIOD: ____________

FLOWCHART SYMBOLS

SYMBOL	NAME	WHAT IT TELLS YOU
	TERMINAL BOX (Oval)	START OR STOP
	PROCESS BOX (Rectangle)	INSTRUCTION ON WHAT TO DO / INFORMATION
	DECISION BOX (Diamond)	MAKE A DECISION YES / NO
	INPUT/OUTPUT BOX (Parallelogram)	PUT INFORMATION IN GET INFORMATION OUT

1. What is the name for a "map" that shows the steps for solving problems? __________
2. What symbol is used to show that a decision must be made? ____________________
3. What symbol is used at the end of the program? ____________________
4. What symbol is used for input and output? ____________________
5. What symbol is used for instructions? ____________________

SOLVING PROBLEMS WITH COMPUTERS **6-18**
WORK SHEET

NAME: ______________________________ PERIOD:____

What a Pair!

Words that mean the same thing are synonyms. Match the synonyms by writing the letter of the word on the left side of this paper next to the word that means the same thing on the other side.

a.	talk	_____	1.	wealthy
b.	tiny	_____	2.	program
c.	large	_____	3.	close
d.	near	_____	4.	fast
e.	quick	_____	5.	small
f.	thin	_____	6.	big
g.	yell	_____	7.	shout
h.	happy	_____	8.	speak
i.	rich	_____	9.	skinny
j.	software	_____	10.	glad

The instructions given to a computer to tell it what to do are called

____________________ or ____________________.

The words s____________________ and p____________________

are synonyms.

A computer can't do anything unless it has instructions.

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NAME: ________________________________ PERIOD:____

Don't Tell Me That

In each problem below there is enough information to solve the problem, but there is some information that you don't need to solve the problem. Cross out the parts you don't need to know in order to solve the problem. Then answer the question.

1. Donald is going to go roller skating. He has his roller skates. He has 75 cents. He is wearing his blue shirt. It costs 50 cents to get into the roller rink if you have your own skates. Does Donald have enough money?

   ___yes
   ___no

2. Mrs. Gregory's class wants to share the cost of her birthday gift. There are twenty students in the class, and Mrs. Gregory is their favorite teacher. She likes candy and she likes to swim. The cost of the gift is $10. It is a nice one. Will each student pay more than a dollar?

   ___yes
   ___no

3. Mrs. Lawrence is driving to see her sister. She hasn't seen her for three weeks. Her sister lives 500 miles away. She will be driving a station wagon. She wants to show her sister her new purse. The car can go 50 miles per hour. She will leave right after breakfast. She eats breakfast at 7 a.m. She eats lunch about noon. She will probably eat a salad. She will not stop on the way. Can she get there before lunch?

   ___yes
   ___no

4. Tad's dog eats a can of dog food every day. He feeds him Barko dog food. The dog's name is Rex. He is an Irish setter. Rex likes to play with Tad. The dog food costs 50 cents a can. The dog can sit up, beg, and play dead. Tad wants to buy 5 cans. He has $5 and he is wearing his best sneakers. Does Tad have enough money to buy the dog food?

   ___yes
   ___no

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NAME: ____ PERIOD:____

What's Missing?

For each problem below there is some information that you must have to solve the problem. What's missing? There could be more than one thing missing. Put an X by each correct answer.

1. Barbara is going on a trip. She will be gone for two weeks. How much cat food should she buy?

What do you still need to know?

___How much the cat food costs
___How many cans the cat eats each day
___The name of the cat
___Who will feed the cat
___How much cat food she has already

2. Sam is going to meet his friend at the movie theater. What time should he leave?

What do you still need to know?

___The name of the movie
___What time they are to meet
___How long it takes to get to the theater
___What kind of candy bar Sam likes

3. Mrs. Cooper is going to buy a birthday card for a friend. Does she have enough money?

What do you still need to know?

____The price of the card
____Where she is buying the card
____How much money she has
____How old her friend will be in ten years

4. Mr. Jones buys a bag of cookies. He eats some on the way home. Does he have any left when he gets there?

What do you still need to know?

____What kind of cookies they are
____How many are in the bag
____How much they cost
____How many he eats

5. Bonnie is going to print out a report using her computer and her word processing program. Will she have enough paper?

What do you still need to know?

____The name of the report
____How long the report is
____The kind of printer she has
____How much paper she has

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NAME: ________________________________ PERIOD:____

That's the Best Way

Read the directions below and put them in the correct order. Then tell what you think the problem is.

1. ____Add the price of the gift, the wrapping paper, and the card.
____Find out how many people are going in on the gift.
____Divide the total cost by the total number of people.
____Find out the price of the gift, the paper, and the card.

What are you trying to do?

2. ____Sort the clothes by color.
____Put a load in the machine.
____Add soap and turn it on.
____Gather all the dirty clothes.

What are you trying to do?

3. ____Find a bigger pot.
____Put some dirt in the pot.
____Water the plant.
____Take the plant out of the small pot.
____Put the plant in the dirt.

What are you trying to do?

4. ____Decide what you want to write about and go to the library.
____Check out the books.
____Look in the card catalog to find what you need.
____Go home and read.
____Write your report.

What are you trying to do?

5. ____Draw the route you like best on the map.
____Decide on three cities you would like to visit.
____Get a map.
____Look for the best possible route.
____Read about all the cities in that area.

What are you trying to do?

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NAME: ______________________________ PERIOD:____

It Won't Work That Way!

The sets of instructions below won't work very well because they are not in the correct order. Number each set to show the best order in which to do things.

_____ a. Mix the batter.
_____ b. Eat the cookies.
_____ c. Bake the cookies.
_____ d. Buy the ingredients.
_____ e. Measure the ingredients.

_____ a. Turn on the computer.
_____ b. Turn off the computer.
_____ c. Play the computer game.
_____ d. Choose a computer game from the shelf.
_____ e. Put the computer game disk in the disk drive.

_____ a. Fly the paper airplane.
_____ b. Get some paper.
_____ c. Fold the paper to make a point and wings.
_____ d. Fold the paper in half the long way.

_____ a. Dry the dog.
_____ b. Catch the dog.
_____ c. Give the dog a bath.

_____ a. Mow the lawn.
_____ b. Put the lawn mower away.
_____ c. Get out the lawn mower.

_____ a. Buy a soft drink.
_____ b. Drink the soft drink.
_____ c. Get some money.

_____ a. Smell the flower.
_____ b. Water the seed and give it some sun.
_____ c. Get some flower seeds.
_____ d. Plant the seed.
_____ e. Take one seed out of the package.

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PACKET: INTRODUCTION TO BASIC

INTENDED OUTCOME ADDRESSED IN THIS UNIT:

The student will identify a computer program as a sequence of instructions used by a computer to perform a task.

The student will identify the relationship between computer programs and computer language (i.e., programs are written in computer languages to solve problems).

The student will identify that error messages indicate that there is a problem.

INTRODUCTION

This packet contains teacher strategies, study sheets, sample tests, and a self-help module for students to take home.

Included in this unit are Textbook Worksheets which are correlated by page and paragraph to the Scholastic Computing textbook. These worksheets have been used successfully with students who have poor reading and study skills. They provide a structured study guide to the information in the textbook. Scholastic Inc. has granted permission to copy these sections of the textbook.

VOCABULARY

array
branching
bugs
conditional statements
constant
continuous loop variables
debug
edit
error message
infinite loop
key words
main routines
numeric variable
program statement
relational operator
reserved words
string variable
structured programming
subroutines
syntax
top-down design

SUGGESTED TEACHER ACTIVITIES

Select appropriate classroom and take home activities needed to implement and reinforce the objective. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your school media specialist, from the Palm Beach County School Board Film Library or from your personal collection.

Write the following computer program written in BASIC on the chalkboard. Discuss the importance of **proper programming sequence.**

```
10   PRINT "LITTLE STAR"
20   PRINT "HOW I WONDER"
30   PRINT "TWINKLE TWINKLE"
40   PRINT "WHAT YOU ARE"
50   END
```

Ask the students if they can correct the sequence of the program by reassigning line numbers.

ANSWER

```
10 PRINT "TWINKLE TWINKLE"
20 PRINT "LITTLE STAR:
30 PRINT "HOW I WONDER"
40 PRINT "WHAT YOU ARE"
50 END
```

Write the following computer program written in BASIC on the chalkboard. Demonstrate the importance of **proper 'syntax'** when typing computer programs into memory. If a computer is available, have the students type the program, **including the spelling mistake**, into the computer. Run the program and answer the question.

```
10    PRIMT "Hello" (return)
20    GOTO 10 (return)
30    END (return)
RUN (return)
```

What error message appeared on the screen?

Correct line 10 PRINT "Hello" by simply retyping the line number and statement at the BASIC prompt.

Explain to students that the 'new' line 10 will replace the old, misspelled line 10.

Have the students type in the BASIC command LIST so that they can see the new line 10 in its correct place.

Have the students run the corrected program. What does the program do?

Explain to students that the most common error when they are typing **computer programs** in a specific computer language is a **"syntax error."** Syntax means grammar and is often a spelling mistake.

Another common error is to leave out an important part of the instructions so the computer cannot finish its task. Again, the computer will give some type of ERROR MESSAGE such as

```
BREAK IN LINE - - - -
```

Allow students to work through the BASIC activities unit included in this packet.

INTRODUCTION TO BASIC **7-3**
TEXTBOOK WORKSHEET

NAME: ______________________________ **PERIOD:** __________

CHAPTER 7

Directions: This worksheet accompanies Chapter 7 - Introduction to BASIC, in your textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Begin on **Page 112**

1. One of the reasons that ______________________ is so popular
is that it is fairly easy to __________________________ and
_________________________________. (Paragraph 4)

2. A __________________ is a set of __________________
that tells the computer what to ________________. (Paragraph 5)

3. It can consist of only ______________________________ or
__________________________ instructions, or it can contain
________________ or even _____________ of instructions.
(Paragraph 5)

4. Each instruction is called a ____________________________
_________________________________. (Paragraph 6)

5. In BASIC, each statement is given a _____________________
______________________, such as ______, _______, 30, and
so on. (Paragraph 6)

6. After you type a program statement, you must press a
_______________ key on the keyboard to send the instruction into
the computer's ____________. (Paragraph 7)

7. This key is usually marked _________________________ or
_______________. On some computers, however, it might have
an arrow on it like this: ____________. (Paragraph 1)

8. A ___________command directs the computer to do something with
the program that is______________in its memory. (Paragraph 3)

9. ....a computer follows or ______________ out BASIC program statements in ______________ order, beginning with the ___________ number and moving to the ______________ number. (Paragraph 2)

10. The system command ____________________________, tells the computer to carry out or_________________________ the program stored in its memory. (Paragraph 3)

11. Certain words within a program are called ___________________ words. (Paragraph 4)

12. When ____________________________________ is followed by ____________________, ____________________ or symbols in ____________ ______________ marks, it tells the computer to __________________________ those characters on the monitor. (Paragraph 4)

13. When it is followed by a ____________________________ problem not in quotation marks, PRINT tells the computer to _____________ and _____________ the answer on the monitor. (Paragraph 4)

14. SEE IF YOU CAN GUESS WHAT WILL APPEAR ON THE MONITOR WHEN YOU RUN THE PROGRAM THAT IS ON **PAGE 113.** WRITE THE ANSWER HERE. ____

15. SEE IF YOU CAN GUESS WHAT WILL APPEAR ON THE MONITOR WHEN YOU RUN THE PROGRAM THAT IS ON **PAGE 114** TOP LEFT. WRITE THE ANSWER HERE. ____

(There is a trick to this program. It is called an 'endless loop'. Can you explain what that means? ________________________________
____

16. A _____________________________ has a special meaning in a PRINT statement. It tells the computer to put _________________ between the letters, words, or symbols in quotation marks. (Paragraph 4)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Page 115

17. To ______________________ what is in memory on most computers, you type the system command ______________ and press the RETURN key. (Paragraph 4)

18. REM stands for ____________________ (Paragraph 6)

19. Using REM allows you to enter ____________________ ________________ about the program. (Paragraph 6)

Page 116

20. ...a key word that will tell the computer to _______________ and wait for the person to ________________________ the information is called ___________________. (Paragraph 2)

21. What would you type if you would like only the OUTPUT to appear on the screen without the "list" of program statements? _________________________ (Paragraph 5)

22. Two commands to clear a screen are: _________________ or ___________________________ (Paragraph 6)

Page 117

23. When you type _______________________ and press the RETURN key, the computer will get your _________________ statements from its memory and "list" them on the monitor. (Paragraph 2)

24. ...if you want to add an instruction between line 20 and 30, you give that instruction a ____________________ number between the numbers __________ and __________. (Paragraph 3)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Page 118

25. ____________________ commands tell the computer what to do with a program that is stored in its ____________________. They are ____________________ part of the program itself. (Paragraph 1)

26. Other BASIC words are called key words or ____________________ commands, to tell the computer ________________________ to do with each program __________________________. (Paragraph 1)

Page 118

27. Describe the three SYSTEM COMMANDS

NEW ____

LIST ____

RUN ____

28. Describe the eight KEY WORDS

PRINT ____

GOTO ____

INPUT ____

LET ____

IF-THEN ____

FOR-NEXT ____

END ____

REM ____

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

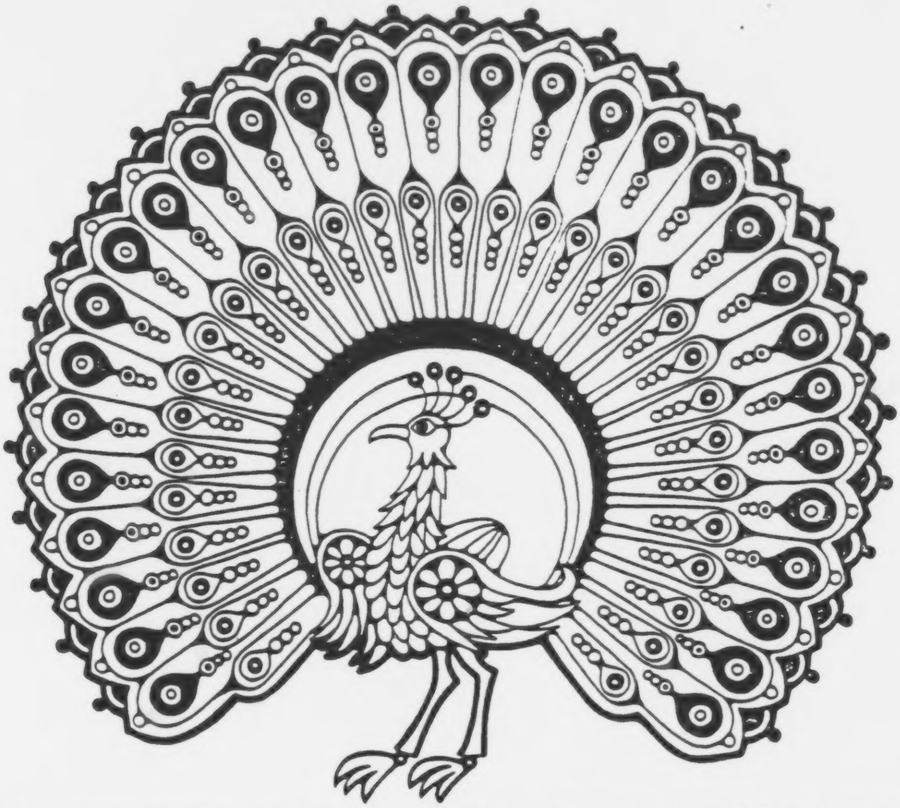
ANSWER THE **CHECKPOINT QUESTIONS** HERE FOUND IN PAGES 112-118.

29. What is a system command? Give two examples.
    a. ______________________________
    b. ______________________________

30. What is a key word or program command? Give three examples.
    a. ______________________________
    b. ______________________________
    c. ______________________________

31. Why is it a good idea to number BASIC program statements by tens?
    ____

32. What do the initials B.A.S.I.C. stand for?
    ______________ ______________
    ______________ ______________
    ____



This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

NAME: ______________________________ **PERIOD:** ________

Steps in Programming

There are six basic steps in the programming or problem solving process. They are listed below. Number them in the correct order.

____ Define/analyze the problem.

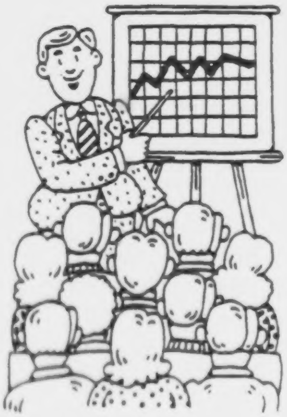
___ Execute/debug the program.

___ Put the steps in a logical sequence.

___ Complete the documentation.

___ Determine the steps required to solve the problem.

___ Code the steps in the appropriate programming language.



Put the correct label on each of the steps as you read about how Valerie works. Choose from the steps above.

__________________ 1. Valerie does not know the average of her grades in physics. She wants to write a program that she can use anytime during the semester to let her know how she's doing.

__________________ 2. She lists the things that must be done to get an average-- divide the sum of the scores by the total number of scores, add the scores, count the total number of scores.

__________________ 3. She puts those steps into a logical order: sum the scores, count the total number of scores, divide.

__________________ 4. She writes a program in BASIC that will average her scores.

__________________ 5. She runs the program. It doesn't work quite right so she tries it again. Now it's great!

__________________ 6. She writes down how to use the program so that others in her class can use it to figure their averages, too.

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STUDY GUIDE

Select Study Sheets and Worksheets from the Study Guide section to provide students with take-home material to reinforce skills learned in class.

Reproduce only those materials that relate to the needs and ability level of the student. Use the Sample Tests to ensure student mastery of the objectives.

INTRODUCTION TO BASIC
WORKSHEET

NAME: ______________________ PERIOD: ______________________

PRINT STATEMENTS IN BASIC PROGRAMMING

Type the following into the computer

```
PRINT "HELLO, I'M YOUR FRIENDLY COMPUTER!"
```

The computer will give this output on the video display:

```
HELLO, I'M YOUR FRIENDLY COMPUTER!
```

The word PRINT followed by a message between a set of quotes will print the message exactly as you type it.

You can also use the PRINT statement to do math problems. Type the following line statement into the computer.

```
PRINT 5 + 8
```

The computer will give this output on the video display:

```
13
```

The following symbols are used in PRINT math statements.

+	Addition
-	Subtraction
*	Multiplication
/	Division
^	Exponentiation
=	Equal

The computer follows a special order in working math problems that have more than one operation to perform. Do the following math problem, then type it into the computer and see if you get the same answer.

```
PRINT 6*3+12/6-5
```

YOUR ANSWER ______________________________

THE COMPUTER ANSWER ______________________________

The computer always does math operations in the following order:

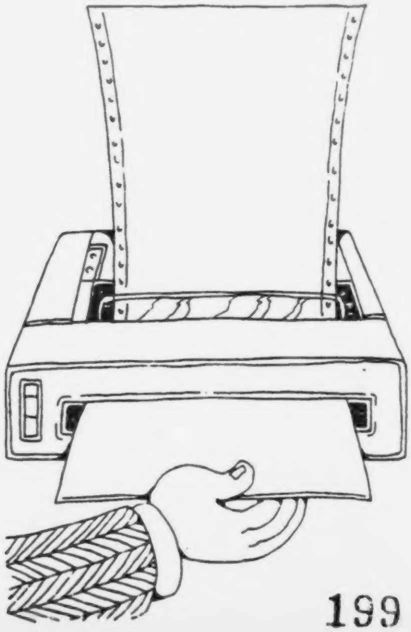
Multiply - Divide - Add - Subtract (M.D.A.S.)

If you need the computer to do any math operations in a different order then M.D.A.S., you can use parentheses. Type the following math problem into the computer. Compare the answer to the one you got above when you typed the same problem without using parentheses.

```
PRINT 6*(3+12)/(6-5)
```

Type in the following statements and record the output on the video display. Remember to press the ENTER KEY at the end of each line you type.

TYPE IN	RECORD COMPUTER VIDEO DISPLAY
PRINT "HI"	--------------------------------
PRINT HI	--------------------------------
PRINT "2+3="	--------------------------------
PRINT 2+3	--------------------------------
PRINT 9*4+8	--------------------------------
PRINT 9*(4+8)	--------------------------------
PRINT 23 + 45	--------------------------------
PRINT 12/4-2	--------------------------------
PRINT 12/(4-2)	--------------------------------
PRINT 837/9	--------------------------------
PRINT 217-98	--------------------------------



INTRODUCTION TO BASIC **7-10**
WORKSHEET

NAME: ____________________ PERIOD: ____________________

WRITING SIMPLE BASIC PROGRAMS

The BASIC computer language can be used to write a program, which is a list of instructions for the computer to follow. Each separate instruction is called a program statement or a line statement. Program statements use a number to begin each line. The line number tells the computer the order in which to follow the instructions. Line numbers are normally multiples of 5 or 10. This allows you to add or insert additional program statements into existing programs without rewriting the whole program.

Type the following sample BASIC program into the memory of the computer.

```
10      PRINT "HI, I CAN TYPE THE ALPHABET"
40      PRINT "PQRST"
20      PRINT "ABCDE"
30      PRINT "KLMNO"
50      PRINT "UVWXYZ"
```

Because you have line numbers, the computer must wait for a command to execute the program. The command is RUN. Type RUN. What did the computer do? ________________________

To see the computer program, type LIST. The LIST command will list the line statements of your computer program. Did the computer arrange the line statements in the correct order? _____

Part of the alphabet is missing. To complete the program so that you can see the entire alphabet type

```
25 PRINT "FGHIJ"
```

Type LIST again. Did the computer place line 25 in the correct order? _______ RUN the revised program.

Type NEW to clear the computer program from the memory of the computer. Then type the simple program below.

```
NEW
10 CLS
20 PRINT "THE COMPUTER PRINTS EXACTLY WHAT IS INSIDE"
30 PRINT "THE QUOTES EVEN IF U SPEL IT RONG!"
40 PRINT "BUT, IF YOU MISSPELL A BASIC COMMAND LIKE 'PRINT'"
50 PRINT "THE COMPUTER WILL GIVE YOU A SYNTAX ERROR MESSAGE."
60 PRIMT "SYNTAX MEANS GRAMMAR."
70 END
LIST
RUN
```

What did the computer do when it got to line 60? ______________________________
Can you correct the mistake in line 60 and make the program run to the end of the program?

NAME: ______________________________ PERIOD: ________

USING LET STATEMENTS IN PROGRAMS

Using the LET statement, it is possible to store information in the memory of the computer and have the computer PRINT it later. Think of the computer's memory as a large Post Office with many boxes for storing information. In boxes labeled with letters you can store number values.

The letters that are given number values are called variables because their values vary and are not always the same. Boxes labeled with letters that hold number values are called numeric variables.

e.g. LET N = 67

In boxes labeled with a letter followed by $ you can store names, words, sentences or symbols. Boxes labeled with letters followed by a $ are called string variables.

e.g. LET N$="United States of America"

The following program will store numbers in the computer's memory, add them, and PRINT the sum.

```
NEW
5 CLS
10 LET A=7
20 LET B=8
30 LET C=9
40 LET S=A+B+C
50 PRINT S
60 END
```

Try typing the program into the memory of your computer in the lab. What is the result? ______________________________

The following program will store words, sentences and symbols in the computer's memory and PRINT them out.

```
NEW
5 CLS
10 LET J$="MY SCHOOL IS #1!"
20 LET K$="IN PALM BEACH CO. WE USE ZIP CODES 33401-33418"
30 LET L$="AREA CODE (407)"
40 PRINT J$
50 PRINT K$
60 PRINT L$
70 END
```

Try typing the program into the memory of the computer. What is the result?

____

How did the computer treat the numbers 33401-33418 and 407? Why?

____

INTRODUCTION TO BASIC
WORKSHEET

7-12

NAME: ______________________________ PERIOD: ________

USING GOTO STATEMENTS

The GOTO statement tells the computer to go to the line number listed and do what it says to do.

Look at the sample program below. Can you predict what the program will do?
____

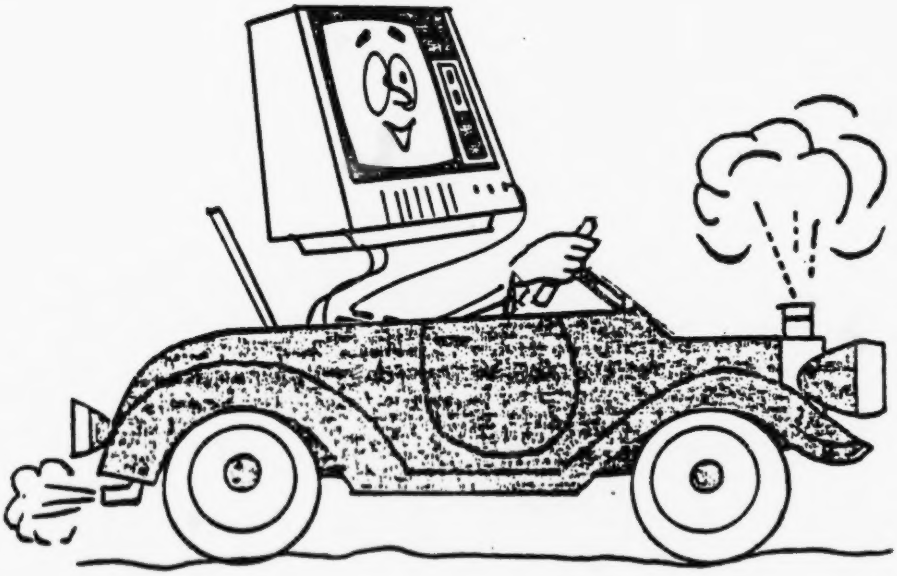
Type the program into the memory of the computer. RUN the program. Did you predict correctly the results of the program?____________________

```
NEW
10 PRINT "MY COMPUTER WON'T STOP!"
20 GOTO 10
RUN
```

To STOP the program from running, use CTRL/BREAK.

This simple program is called an endless loop. The computer will print the statement in quotes forever unless there is a BREAK in the program.

Write a simple program, following the example above, that prints your name on the screen in an endless loop.



INTRODUCTION TO BASIC
WORKSHEET

NAME: ________________________________ PERIOD: ________

INPUT STATEMENTS IN THE BASIC LANGUAGE

The INPUT statement is a way to stop the computer program until the user supplies some information so the program can continue. Look at the sample program below.

```
10 CLS
20 INPUT A$
30 PRINT A$
40 GOTO 20
```

If you type this program into the computer and then type RUN, a question mark will appear on the screen. The ? means that the computer is executing the INPUT statement and is waiting for information. The INPUT statement 20 INPUT A$ tells the computer to do three things:

- a) type a question mark on the screen
- b) turn on the cursor
- c) wait for someone to type in a string value.

When a string value is typed and entered, the computer puts the string into a memory box called A$ and goes on to the next numbered line in the program.

If you typed the word HELLO at the ?, the computer would execute line 30 and print the word HELLO. Then, it would go to line 40 and discover that it is to GOTO line 20 and wait for another string value to be typed.

The INPUT statement asks you to type in a number or string while the program is running. INPUT statements allow you to change the value of the string variable or numeric variable without having to retype program lines as you have to do with the LET statement.

Type in the following program that uses several INPUT statements. Observe the difference between LET and INPUT statements. Notice that string variables and numeric variables are treated differently by the program.

```
NEW
10 CLS
20 PRINT "WHAT IS YOUR NAME?"
30 INPUT N$
40 PRINT "WHAT CITY DO YOU LIVE IN?"
50 INPUT C$
60 PRINT "WHAT IS YOUR FAVORITE TWO-DIGIT NUMBER?"
70 INPUT F
80 PRINT "I AM GOING TO DIVIDE YOUR FAVORITE NUMBER BY 5."
90 LET D=F/5
100 PRINT D
110 END
```

INTRODUCTION TO BASIC 7-14
WORKSHEET

NAME: ______________________________ PERIOD: ________

IF.....THEN STATEMENTS IN BASIC PROGRAMS

The IF part of an IF...THEN statement tells the computer to make a decision. It tells the computer to do a particular job IF a given condition is true. However, IF the condition is false, the job will not be done and the computer will branch to the next statement in the numbered line.

Here is an example of a program that uses a IF...THEN statements.

```
NEW
10 CLS
20 PRINT "TYPE IN A NUMBER AND I WILL TELL IF"
30 PRINT "YOUR NUMBER IS POSITIVE, NEGATIVE OR ZERO!"
40 PRINT "TYPE IN A NUMBER"
50 INPUT X
60 IF X<0 THEN PRINT "YOUR NUMBER IS NEGATIVE."
70 IF X>0 THEN PRINT "YOUR NUMBER IS POSITIVE."
80 IF X=0 THEN PRINT "YOUR NUMBER IS ZERO."
90 GOTO 40
```

When you RUN this program, for each number you INPUT, the computer will check for the IF condition and then execute the THEN part of the statement when the condition is TRUE.

The computer can compare a variable and a number or two variables and decide if the conditions are true or not. Here are the BASIC statements or symbols used by the computer in making mathematical comparisons.

=	is equal to
<	is less than
>	is greater than
<=	is less than or equal to
>=	is greater than or equal to
<>	is not equal to

The computer can also compare string variables. Look at this simple program.

```
NEW
10 CLS
20 PRINT "DO YOU LIKE COMPUTER GAMES?"
30 INPUT "ANSWER YES OR NO IN CAPITAL LETTERS"; N$
40 IF N$="YES" THEN PRINT "THAT'S FANTASTIC.": GOTO 60
50 IF  N$= "NO" THEN PRINT "THAT'S TOO BAD."
60 PRINT "GOOD-BYE"
70 END
```

Try RUNning the program on the computer.

INTRODUCTION TO BASIC
WORKSHEET

NAME: ________________________________ PERIOD: ________

FOR....NEXT STATEMENTS IN BASIC PROGRAMS

There are several ways to use FOR...NEXT statements in computer programs. One way is as a time delay counter. The following program will cause the words "I AM FANTASTIC" to blink on,off, on, off on the screen until the computer is stopped with CTRL/BREAK.

PROGRAM	EXPLANATION
10 CLS	Clears the screen
20 PRINT "I AM FANTASTIC"	Prints the words on the screen
30 FOR Z=1 TO 500: NEXT Z	Counts
40 CLS	Clears the screen
50 FOR Z=1 TO 500: NEXT Z	Counts
60 GOTO 10	Sends the program back to line 10

The numbered line that uses the FOR....NEXT statements is called a FOR...NEXT LOOP. Line 30 FOR Z=1 TO 500: NEXT Z, tells the computer to count from 1 to 500. As the computer counts, it puts the number 1 into memory bozx Z, then erases 1 and puts 2 into the box, and then erases 2 and puts 3 and so on until it reaches 500. All of this happens very quickly inside the memory of the computer.

Both lines 30 and 50 are FOR...NEXT time delays. If we wanted the words to flash for a longer time on the screen, we would have the computer count to a number greater than 500. If we wanted the words to be on the screen for less time, we would have the computer count to a number less than 500.

Type the program into the memory of the computer. Change the value 500 in lines 30 and 50 to 1000. What was the result?______________________

The FOR...NEXT statement can also be used to count how many times a job has been done. Look at the program below. Can you predict what the program will do? ____

```
NEW
10 CLS
20 FOR X=1 TO 3
30 PRINT "ROW, "
40 NEXT X
50 PRINT "YOUR BOAT"
60 PRINT "GENTLY DOWN THE STREAM"
```

Type the program into the computer. Can you add a line 60, 70, 80 and 90 so the computer can print the rest of the nursery rhymn? MERRILY, MERRILY, MERRILY, MERRILY, LIFE IS BUT A DREAM.

```
60 FOR Y=1 TO ___
70 PRINT "
80 NEXT
90 PRINT "
```

INTRODUCTION TO BASIC **7-16**
WORKSHEET

NAME: ________________________________ **PERIOD:** ________

GIVING DIRECTIONS TO THE COMPUTER

The instructions given to a computer must be very precise and accurate. When you turn on an Apple or IBM computer without putting a disk in the disk drive, you are automatically sent by the computer to a version of BASIC. The computer only shows a], OK or > on the screen which tells you that it is waiting for you to type a program into the computer memory.

Type your name and push the ENTER key. The computer flashes a message on the screen:

```
SYNTAX ERROR
```

You did not give the computer an instruction that it knew. Now try this:

`PRINT "MARY JONES"` (and press Enter)

The computer prints the name because it can follow the directions.

Predict how the computer will respond to these commands.

After you have finished your predictions, type the commands into the computer. Write down the response on the screen and compare it to your predictions. Did you guess what the computer would do? ______

Command	Prediction	Computer Response
PRINT "14 + 18"	______	______________
PRINT 14 + 18	______	______________
PRINT HELLO	______	______________
PRINT " HELLO"	______	______________

One of the commands gave you a SYNTAX ERROR message. Circle the incorrect command.

Circle the number of the <u>true</u> statement:

1. An error message tells the **computer user** that something is wrong with the program instructions.

2. An error message tells you the **computer** made a mistake.

NAME: ______________________________ **PERIOD:** _______

If-Then

Read each sentence and do what it tells you to do. You should be able to read two words when you fill in all of the blanks.

1. If the sun is a star, then put the letter L on line 4. If not, put an E.
2. If monkeys are animals, then put a C on line 11. If not, put a T.
3. If zebras have spots, then put a H on line 1. If not, put an F.
4. If fish swim, then put an S on line 16. If not, put an L.
5. If the sky is green and grass is pink, put an I on line 2. If not, put an O.
6. If the computer is a machine that organizes, processes and stores information, then put a W on line 6. If not, put an X.
7. If cows can fly, then put an M on line 13. If not, put an I.
8. If an ocean is smaller than a lake, then put a P on line 12. If not, put a T.
9. If there is an L on line 4, then put an L on line 3. If not, put a Z.
10. If you go to school, then put a D on line 7. If not put a B.
11. If you are more than 80 years old, then put an E on line 14. If not, put an O.
12. If squares are round, then put a B on line 5. If not, put an O.
13. If turtles run faster than hares, then put a G on line 10. If not, put an E.
14. If this is sentence number 14, then put an N on line 15. If not, put a Q.
15. If a mile is longer than a yard, then put an I on line 8. If not, put a K.
16. If lions roar, then put an R on line 9. If not, put a C.

___ ___ ___ ___ ___ ___
1 2 3 4 5 6

___ ___ ___ ___ ___ ___ ___ ___ ___ ___
7 8 9 10 11 12 13 14 15 16

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INTRODUCTION TO BASIC
WORKSHEET

7-18

NAME: ______________________________ **PERIOD:** ______

What Happened?

Below is a list of things that you might do to a computer. Tell whether or not the computer might give you an error message for each one.

		ERROR MESSAGE	NO ERROR MESSAGE
1.	You forget to close the disk drive door.	______	______
2.	You spell a command incorrectly.	______	______
3.	You forget to turn on the monitor.	______	______
4.	You forget to turn off the computer at night.	______	______
5.	The disk is broken.	______	______
6.	The disk drive is not connected to the computer.	______	______
7.	You put the disk in upside down.	______	______
8.	You want to print, but you did not turn on the printer.	______	______
9.	You put in the wrong program.	______	______
10.	You put a candy bar next to the keyboard.	______	______
11.	You work at the computer with a friend.	______	______
12.	You forget to plug in the computer.	______	______
13.	You do not push "return" when the computer tells you to.	______	______
14.	You drink a soft drink while working at the computer.	______	______

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NAME: ______________________________ **PERIOD:** ________

Is Something Wrong?

Sometimes, even with the best of care, things go wrong with a computer. Usually the computer will tell you what is wrong by giving you an error message.

Look at the screens below. Which ones seem to be giving an error message?

Put a check mark in the box below the screens with an error message.

Press space bar to continue.
☐

Syntax error
☐

PLEASE
WAIT...
☐

?
☐

File not found
☐

Check disk drive.
☐

I/O Error
☐

To return to the menu, press ESC.
☐

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PACKET: INTRODUCTION TO WORD PROCESSING

INTENDED OUTCOMES ADDRESSED IN THIS UNIT:

The student will match computer activites to the following computer application: word processing.

The student will select appropriate tasks to be performed with word processing.

The student will demonstrate a knowledge of the computer keyboard.

The student will state uses for word processing.

The student will create a document on the word processor.

The student will save a new document or a revised document on a disk.

The student will edit a document on the word processor.

The student will retrieve a document from the system.

The student will print a document created with a word processing program.

INTRODUCTION

This packet contains teacher strategies, study sheets, sample tests and a self-help module for students to take home.

Included in this unit are Textbook Worksheets which are correlated by page and paragraph to the Scholastic Computing textbook. These worksheets have been used successfully with students who have poor reading and study skills. They provide a structured study guide to the information in the textbook. Scholastic Inc. has granted permission to copy these sections of the textbook.

VOCABULARY

buffer
carriage
cursor
daisy-wheel printer
dedicated word processor
define
delete
document/file
dot-matrix printer
double-spaced
editing
filename
formatting commands
icons
insert
justification
line spacing
menu
off-screen commands
on-screen commands
screen display
scroling
search
search and replace
single-spaced
special function keys
tabs
word processor
word processing programs
word wrap
wrap-around

SUGGESTED TEACHER ACTIVITIES

Select appropriate classroom and take home activities needed to implement and reinforce the objectives. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your school media specialists, from the Palm Beach County School Board Film Library or from your personal collection.

Discuss the advantages and disadvantages of **hard copy over screen display** (e.g., screen display scrolls, some characters are hard to read particularly for people with glasses, etc. Hardcopy becomes bulky and takes more room to store, etc.).

Discuss the need for a **printer** as a part of a computer system.

Demonstrate, with examples, the various **types of jobs** to be **performed by a computer printer** (i.e., business letters, program listings, data listings).

Demonstrate the **characteristics** of each type of printer: (a) dot-matrix; (b) daisy-wheel; and (c) laser printer. Describe the way each type of printer makes its impression on paper.

List the **advantages and disadvantages** of each type of printer.

Demonstrate computer **hard copy** by printing a document or poster.

Demonstrate an ability to **locate various keys** on a computer keyboard by using it to type information.

Discuss, demonstrate and provide practice on the **computer keyboard.** Explain the functions of the various non-typing keys.

Make copies of the **blank computer keyboard** provided in the packet. Have students fill in the keys using a computer keyboard for reference.

Write sentences of your own for keyboarding practice. Incorporate vocabulary from the Florida SSAT.

Have students compare the **similarities and differences** between two brands of computer keyboards (IBM and Apple).

Use actual computers or worksheets of different brands of computer keyboards. Explain that the QWERTY keyboard is the same, but special function keys may vary.

Explain to students that **special function keys** may have different names, but they often operate in a similiar fashion, e.g.,

ENTER	RETURN
DEL	DELETE

Explain to students that keys can be **dysfunctioned** by a software program. That makes it harder for a user to crash a program.

To evaluate mastery of these objectives, the teacher should select a software program that requires the student to interact with the program using the keyboard.

Discuss and demonstrate the use of the computer for **word processing** by using HomeWord for the PC to create, edit, save, and print a document.

Discuss and demonstrate the use of the computer for **storage/retrieval** by storing, retrieving, and editing data files on HomeWord.

It is recommended that touch typing be introduced to the student before they begin working on word processing. Both software and worksheet activities are appropriate for this purpose. Pages 8-25 and 8-26 contain generic QWERTY keyboards that can be used to color in keys used for each finger when touch typing. At the end of this section, beginning with Page 8-42, there are worksheets specifically for the IBM PC and Apple IIGS keyboard.

Discuss and demonstrate the following **capabilities of a word processing** program:

a. Starting/adding text
b. Cursor movement (pg/up, pg/dn, arrow keys, home)
c. Inserting text
d. Deleting text
e. Block-action commands (copy, move, delete, insert, etc.)
f. Save text (disk storage)
g. Recall text for editing
h. Format text for printing (margins, line-spacing, et.)
i. Printing a hard-copy

Provide time for **hands-on student practice** with a word processing program.

Each student will enter a paragraph of sample text using the "Edit" mode. Using the text manipulation capabilities of the word processor, the student will practice the various commands to insert, delete, move, and edit the text. After demonstrating the use of the editing capabilities of the word processor the student will practice the disk storage and recall functions.

These activities can be done with the word processing exercises for HomeWord provided by the Department of District Computing Services. **Worksheets that accompany those exercises** are included in this packet. A complete printout of each lesson on the data disk is provided in Appendix B of the curriculum guide entitled Introduction to Computers for Middle / Junior High School.

Beginning with Page 8-27, there is a group of HomeWord activities that start with a seven page worksheet that accompanies the Guide (i.e. documentation) that comes with the HomeWord software.

Pages 8-37 through 8-41 are worksheets that accompany the data disk provided by District Computing Services. The worksheets have been structured to assist student with poor reading, grammar and spelling skills.

CAUTION: It is suggested that the teacher discuss and demonstrate to the students the use of the data disk for HomeWord. **Be sure that the write protect notch of the data disk is covered.** Give step-by-step directions on how to get back to the main menu **to start over** if a student totally messes up the file he or she is working on. Be sure that the student understands that if they make too many mistakes, the original file is intact and they can start over. Have the students practice this procedure several times BEFORE they begin doing the HomeWord activities independently.

Each student will write a one-page letter to a friend using the word processing program. Requirement: correct letter format and all errors corrected prior to printing.

NAME: ______________________________ **PERIOD:** __________

CHAPTER 8

Directions: This worksheet accompanies Chapter 8 - Introduction to Word Processing, in your Textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Begin work on **Page 141**.

1. The best thing about ________________ __________________ programs is that they make it easy for you to ______________to, ____________________, ____________________, or ______________________ your work. (Paragraph 5)

2. Anything you type on a word processor......is called a ____. (Paragraph 6)

3. Before you begin writing your document, most word processing programs require that you give it a __________________________. This is a short title, called a ____________________. (Paragraph 6)

4. With some programs....filenames can not have any more than ____________________ characters and must ________________ contain any ____________________, __________________ marks, or ________________. (Paragraph 7)

5. A word processor's ___________________ display is the number of characters (___________________, ___________________, ___________________ and ___________________) that can be displayed on the screen of your TV or monitor at ______________ time. (Paragraph 8)

6. A typical microcomputer system...can display up to ______________ separate ____________________ of information on the screen. (Paragraph 8)

7. Each line holds ________________ characters. With another system, you might be able to see only ______________ lines of information at once, but those lines might be up to __________________ characters long. (Paragraph 8)

Page 142

8. Most documents you write will have more than ________________ or ________________________ lines in them. (Paragraph 1)

9. Word processors show you small portions of text at a ____________. (Paragraph 2)

10. As you type in additional lines, the lines at the ________________ of your screen will ___________________. (Paragraph 2)

11. These lines have ________________ been ___________________ or ______________________________. (Paragraph 2)

12. They have been stored in the computer's _______________________. (Paragraph 2)

13. You can move forward and backward through your document. One way to do this is to press the "__________________________ _______________________" or"___________________________ __________________________" key on your keyboard. (Paragraph 2)

14. Such movement of lines onto and off the screen is called ____________________________________ (Paragraph 2)

15. What is the special pointer called that shows you where each character will appear? ________________________ (Paragraph 4)

16. A ___________________________________ is a small patch of ___________________________________ that moves on the computer screen as you work. (Paragraph 4)

17. ...typing is not the only way to move the cursor. You can also move it anyplace on the screen by pressing one of the ____________________ keys on your keyboard. (Paragraph 5)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

18. With some word processors,...,you can move the cursor with a ____________...a ________________device that looks like a small plastic box on wheels - with a wire "________________" that ______________ into the computer. (Paragraph 8)

Page 143

19. If you can using a non-electric typewriter, you must move a handle, called the ________________ ______________________, to its starting position, so that you can __________________________ a ____________________ line. (Paragraph 2)

20. With an electric typewriter, you must press a key marked _________ in order to start a ______________ line. (Paragraph 2)

21. With most word processing programs, you do not have to worry about the carriage return or the RETURN key as you write. When you come to the ____________ of a line, the ___________________________ moves to the _______________ of the _________________ line ____. (Paragraph 3)

22. This useful feature, which is found on most word processors, is called ____________________ ______________________ or ___________________________. (Last Paragraph)

Page 144

23. When you first "_____________________ __________" (load) your word processing program, you will see a _______________________ of things your program can do. This is called a ________________. (Paragraph 1)

24. From the _________________, you _______________ the task you want your word processor to perform. (Paragraph 1)

25. Most word processing menus are made up of words like "____________________" and "_________________________". (Paragraph 2)

26. But some word processors have menus made up of pictures, called "______________". (Paragraph 2)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

ANSWER THE **CHECKPOINT QUESTIONS** FOR EXTRA CREDIT POINTS.

27. What happens when you are typing with a word processing program and you come to the end of a line on the screen? What is this feature of the program called?
    a. ______________________________
    b. ______________________________

28. What does the word scrolling mean? When would you need to scroll a document:
    a. ______________________________
    b. ______________________________

29. What do you call a picture that stands for a menu option or a program command? ______________________________

Page 145

30. With some word processing programs, all he would have to do is move the cursor to the ____________"e" in "vedeo" and ____________ an "i" right on ____________ of it. (When correcting mistakes.) The "i" would replace the "e", and the word would be correctly ____________. (Paragraph 3)

31. With other programs, he would ____________ the cursor to the first "e", type a command to ____________ it, and type an "i". (Paragraph 3)

Page 146

32. Word processing programs also have a number of different ways in which you can ____________ or ____________ whole words or sentences. (Paragraph1)

33. On some computer keyboards, there is a ____________ function key called the ____________ key. (Paragraph 1)

34. Sometimes the control key has this symbol on it: ____________. On other keyboards, it has the label ____________ on it. (Paragraph 1)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

35. To erase an entire word, you might place your cursor at the ____________________ of the word, hold down the ____________ key, and press the letter ____________ (for "______________"). The letters of the word would be erased ______________ at a ______________. (Paragraph 2)

36. What if you wanted to delete a whole paragraph?.....First you must ________________ or ________________ the ______________ of text that you want to ____________________. (Paragraphs 3 & 4)

37. ...you might move the cursor to the ______________________ of the ______________________ word you want to delete, and press the ________________ or __________________ key on your keyboard. (Paragraph 4)

38. Next, you might move the cursor to the ___________________of the _______________________ word you want to delete, and press the _____________ or _____________ key __________. (Paragraph 4)

39. What if you erase something and then you want it _______________? Some word processors have what is called an ___________________ feature. It's also called "______________","______________", or "________________!" depending on which word processing program you use. (Paragraph 6)

40. When the computer __________________ lines that you have marked, it removes them from the _______________________. But it also ___________________ them in a section of its _______________ called a _________________________. (Paragraph 7)

41. So if you change your mind, you can get the deleted material _________________ from the buffer by pressing a certain key or be selecting the "____________________" function from the ___________________________. (Paragraph 7)

Page 147

42. (Word processors)...let you ___________________ a word, sentence, paragraph, or a whole section of text from one place in your document to ______________________________ place. (Paragraph 1)

43. The ______________________________ function lets you add ______________________ words anywhere you like in a sentence or paragraph. (Paragraph 5)

Page 149

44. A function called ________________________ (or "Find") helps you ______________________________ specific words and phrases in a ________________________________. (Paragraph 1)

45. ....you can tell the computer to find a particular word by pressing a ______________________ of keys or selecting the "Search" function from a menu. (Paragraph 2)

46. Using a function called __________________________ (or "Find and Replace"), a word processor can _____________________ the words you select with __________________________ words. (Paragraph 3)

Page 150

47. The Search-and-Replace function is very useful if you discover you have ___________________________ a certain word everywhere it appears in a composition. ...if you have used a certain word ____________ many times in the same document, ...you could go back and change some of the occurences to different words that have the ____________ meaning. (Paragraph 2)

ANSWER THE **CHECKPOINT QUESTIONS** HERE. ANSWERS CAN BE FOUND ON PAGES 144 TO 150. WORTH EXTRA CREDIT POINTS.

48. Describe one way to delete text one character at a time.

____

49. What word processing funtion would you use to correct a word you had misspelled several times in the same document?

____

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Checkpoint Questions continued

50. Name two things you can do with a block of text after you define or mark it.
a. ____________________
b. ____________________

Page 151

51. When formatting and printing a document there are four (4) questions a person using a word processor might ask themself. List them here. (Paragraph 2)
a. ____________________
b. ____________________
c. ____________________
d. ____________________

52. ....used ____________ commands to tell the computer how he wanted his text to ____________ when it was ____________ on paper. (Paragraph 3)

53. With ____________ formatting, some programs also let you see on the monitor exactly what your document will look like on paper--before you ____________ it out. (Paragraph 4)

54. Other word processing programs ____________ your formatting instructions in memory but do not show you the results until you print out the document. This is called ____________ formatting. (Paragraph 4)

55. Define double-spacing. (Paragraph 5) ____________________
____

56. Define single-spacing. (Paragraph 5) ____________________
____

57. Define margins. (Paragraph 6) ____________________
____

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Page 152

58. The two most common types of printers for microcomputers are the ________________________ printer and the ____________________ printer. (Paragraph 3)

59. What are the two major differences between these two types of printer? (Paragraph 3)
    a. ____
    b. ____

60. A daisy-wheel printer prints characters on paper with a __________ device. Each __________________ on the wheel has a letter or other symbol attached to the ___________ of it. To form a letter on your paper, a small ________________ hits that spoke against an ________________________ ribbon which touches the paper. (Paragraph 4)

61. A dot-matrix printer, ... forms different letters by hitting and ink ribbon against your paper with different sets of _______________. Thus, the characters ....are made up of tiny ________________. (Paragraph 5)

62. In some printouts you can see the ___________________dots. In others there are so _____________________________ dots in each character that it looks almost __________________. (Paragraph 5)

Page 153

63. The characters printed by a daisy-wheel printer, ...really are __________________. (Paragraph 2)

64. Sometimes daisy-wheel printers are called "__________________________________" printers because the results looks as if it had been typed on an electric typewriter. (Paragraph 2)

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Page 153

65. Dot-matrix printers are generally much ________________ than daisy-wheel printers. A typical dot-matrix printer...can print between ________________ and ______________ characters per second. (Paragraph 3)

66. ...a daisy-wheel printer averages between ________________ and _________ characters per second. (Paragraph 4)

67. When the right margin of something that has been typed is straight, and the left margin is also straight, what is this called? ______________________________ (First Paragraph below the box)

68. The ______________________ key makes it possible to quickly ______________ the cursor to a ____________ location on a line, called a ____________ ________________ (Second Paragraph below the box)

69. The most common use of a tab is to ________________ for a new paragraph. ...Another use for tabs is to set up ________________ of information. (Paragraph below the box)

Page 154

70. Name four other "fancier" formatting commands that are on word processing programs. (Paragraph 1)

____

____

____

____

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ANSWER THE **CHECKPOINT QUESTIONS** HERE. THE ANSWERS CAN BE FOUND ON PAGES 151-154. WORTH EXTRA CREDIT POINTS.

71. What do you call commands that tell a computer how you want your text to look when it is printed on paper?

____

72. What do you call the blank area along the edge of a page?

____

73. When you leave a line of space after every line you write, what is that called? _______________________________

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

NAME: ______________________________ **PERIOD:** __________

WORD PROCESSING ACTIVITIES

Word processing can easily be assimilated into any part of the curriculum.

Prepare a worksheet of **directions** for each student.

Distribute the worksheet and **identify the intended outcomes** with the students.

If **prerequisite skills** (i.e. knowledge of the word processing program) or **prerequistie knowledge** (i.e. research or information needed to complete the activity) are required, be sure the student is adequately prepared.

If a computer is in the classroom, word processing activities can be set up in **learning centers.**

If the computer is part of a **lab,** establish cooperate and **communication between the 'computer teacher' and the ESE teacher** to develop meaningful word processing activities that relate to the curriculum.

IDEAS

WRITE AND ILLUSTRATE A BOOK.

CREATE A CERTIFICATE FOR A SPECIAL OCCASION.

MAKE A SIGN TO ADVERTISE AN EVENT.

WRITE A PLAY.

WRITE A CLASSROOM NEWSLETTER FEATURING STUDENT PROFILES AND HOBBIES.

CREATE YOUR OWN FUNNIES OR CARTOONS.

WRITE A REPORT ABOUT ...

CREATE A CROSS WORD PUZZLE WITH DEFINITIONS OF SPELLING OR VOCABULARY WORDS.

WRITE DIRECTIONS IN SEQUENCE TO AN EVERY DAY ACTIVITY. (e.g. How to check out a book.)

WRITE A BOOK OF POETRY. EACH STUDENT CAN MAKE AN ILLUSTRATE CONTRIBUTION TO THE COLLECTION.

USE STORY STARTERS TO HAVE STUDENTS AUTHOR A BOOK OR START A STORY CHAIN AND HAVE EACH STUDENT ADD A SENTENCE/OR PARAGRAPH/OR CHAPTER TO THE BOOK.

WRITE A LETTER USING PROPER LETTER FORMAT TO....

INTRODUCTION TO WORD PROCESSING
SUGGESTED ACTIVITY IDEAS continued

CREATE A COOKBOOK OF FAVORITE RECIPES.

PRODUCE AN ADDRESS BOOK OF THE STUDENTS IN THE CLASS.

CREATE A WORD SEARCH WITH SPELLING OR VOCABULARY WORDS.

CREATE DATAFILES

Paragraphs that need punctuation: take samples from the reading book; science book; social studies book ...

Scramble stories that students must sequence properly. Pick a paragraph from a well known story, or textbook.

Paragraphs or sentences in which student must substitute an
- antonym
- synonym
- homonym
- verb tense
- contraction
- pronoun substitute

Underline all the prepositions in a paragraph.

Complete sentences or find dangling participle.

Add adjectives to a paragraph or list of simple sentences. Use a thesarus to find unusual adjectives.

Provide a starter word and have students type in rhyming words.

CREATE A CLASS CHRONICLE WHERE EVENTS OF THE DAY ARE RECORDED. HAVE STUDENTS TAKE TURNS BEING THE RECORDER.

CREATE DATAFILES OF PARAGRAPHS FROM THE TEXT. HAVE STUDENTS UNDERLINE OR HIGHLIGHT THE IMPORTANT POINTS. (Study skills)

INTRODUCTION TO WORD PROCESSING
SAMPLE TEST

NAME: ______________________________ **PERIOD:** __________

Select the correct **multiple choice** answer:

___ 1. To "edit" a document means

- a. To save the document on the disk
- b. To revise the material within the disk
- c. To load the document into the computer from the disk
- d. To make a paper copy of the document.

___ 2. Of the following, which is not an editing function?

- a. Moving text with the block-action command
- b. Correcting spelling errors
- c. Inserting text within the document
- d. Loading the document into the computer from the disk

___ 3. A major advantage of "word processors" is the capability to revise text without having to re-type the text.

- a. True
- b. False

Match each command with its function.

- a. DELETE
- b. MARGIN
- c. EDIT
- d. INSERT
- e. BLOCK ACTION COMMAND

___ 4. The word processing function that allows new text to be added within an existing line of text.

___ 5. To remove an unwanted character or word from the text.

___ 6. To move text.

___ 7. The un-printed borders on a page of text.

___ 8. The act of correcting and changing text after it has been entered.

9. **List five** home and personal word processing applications.

____
____
____
____
____

NAME: ______________________________ **PERIOD:** __________

10. List **five business and office** word processing applications.

____
____
____
____
____

11. List **five educational** word processing applications.

____
____
____
____
____

STUDY GUIDE

Select Study Sheets and Worksheets from the Study Guide section to provide students with take-home material to reinforce skills learned in class.

Reproduce only those materials that relate to the needs and ability level of the student. Use the Sample Tests to ensure student mastery of the objectives.

INTRODUCTION TO WORD PROCESSING 8-17
STUDY SHEET

NAME: ______________________________ PERIOD: __________

THE COMPUTER KEYBOARD

1. Some **symbols** on the computer keyboard are not on a typewriter. Examples might include: < > ' ~ \

2. Use **separate keys** for the number **1** (one) and the letter **"l"**.

3. You should use **separate keys** for the number **0** (zero) and the letter **"O"**.

4. You should use the **Backspace** to move the cursor back one space and erase the previous character that was typed.

5. You should use the **Esc (Escape)** key to erase an entire line when you are programming. Esc is often used to get out of many software programs.

6. You should use **Shift** to type capital letters and symbols printed on the top of the number keys.

7. You should use **Caps Lock** to make the letter keys type only capital letters.

8. You should use **Enter** to end a line and put the carriage at the beginning of the next line.

9. You should use the **Ctrl (Control) key** in combination with other keys to perform certain tasks.

10. You should use **Ctrl/Alt/Del** to reset or warm boot the IBM computer system.

INTRODUCTION TO WORD PROCESSING **8-18**
STUDY SHEET

NAME: ______________________________ **PERIOD:** __________

WORD PROCESSING

One of the neatest things a computer can do is called WORD PROCESSING. Word processing is a computer program that lets you type and store words in the computer's memory. It lets you fix mistakes or erase BEFORE you print a copy on the printer.

There are many advantages of having a word processing program:
(1) You can save the information you type in the memory or on a diskette for later use; (2) You can fix errors BEFORE they are printed on paper; and (3) You can print as many copies of the same information or report, as you need.

Would a word processor be nice to use in these situations? Circle your answer.

You are having a party. You need 10 invitations to send to friends.

Yes No

Your homework assignment is to draw a picture of a computer in the future.

Yes No

You have to type a five page report for your science teacher.

Yes No

You have three sentences to write for English.

Yes No

Your teacher wants you to practive your cursive handwriting.

Yes No

NAME:________________ PERIOD:________________

TYPES OF PRINTERS

There are many different kinds of printers for many different tasks. The **four (4) most common types of printer** are the dot-matrix, the daisy-wheel, the ink jet and the laser printer.

Dot-matrix printer: The letters are made up of **tiny dots** made by hitting an ink ribbon against the paper with sets of pins. The quality of print may not be very good but they **can print graphic characters**. This printer is **faster, cheaper and quieter** than some of the other printers. An entire book chapter can be printed in ten (10) minutes. Many dot- matrix printers now have an **option** that lets the user select to print **letter- quality characters**.

Daisy-wheel printer:_This printer uses a plastic or metal **wheel** with characters molded on the ends of its spokes. The characters printed are **solid**. The result looks like it had been printed on an electric typewriter. The **print quality is high** but the printer is **very slow and expensive.** It takes more than one-half hour to print a book chapter.

Laser printer:_ This printer emits **light focused on the toner drum** to reproduce images and **characters of high quality** or resolution. The printer can print **graphics** and has many **different fonts** or letter styles. Some examples of fonts are show here: **font** font font *font* . These printers can also reproduce photo copy. The printout or hard copy produced by a laser printer is near-camera ready which means that excellent reproductions can be made from the original. Laser printers are **more expensive** than daisy-wheel printers.

Ink jet printer: When the ink jet printer is operating, the ink is programmed to **spray and print the entire page** at one time. Ink jet printers are **very expensive** but **very fast**. Ink jet printers can print **color, photo copy, graphics** and **different fonts.** The newspaper USA Today is printed with an ink jet printer.

INTRODUCTION TO WORD PROCESSING **8-20**
WORK SHEET

NAME: ______________________________ **PERIOD:** __________

WORD PROCESSING VS. THE PENCIL

When you use word processing, the words you type appear on a screen. The words can be moved, changed or erased easily because they are electronic images.

Pretend you have a long paper to write for school. You can write the paper with a word processor or with a pencil. Under the **colum Word Processor**, write all the ways a word processor would be better than a pencil for writing the paper. Under the **column Pencil**, write all the ways a pencil would be better.

A few ideas for each column are provided for you at the bottom of the page.

WORD PROCESSOR	PENCIL
____________	____________
____________	____________
____________	____________
____________	____________
____________	____________
____________	____________
____________	____________

Under which column: Word Processor or Pencil, would you put these ideas?

correct misspelled words easily
arrange an outline of events
rearrange the words in a sentence
erase a word from a sentence

check spelling
produces a neat document
rearrange paragraphs
add a word to a sentence

NAME:________________ PERIOD:________________

THE IBM KEYBOARD

Use the IBM PC keyboard as a reference to fill in the following sentences.

1. The ____________ key is to the right of the A key.

2. The ____________ key is between the C and the B key.

3. To type a capital letter or the top symbol on a key, you hold down ____________ while typing.

4. In order to type all capital letters press ______________ before typing.

5. Press ___________ to move the carriage to the next typing column.

6. The ____________ key is to the left of the Y key.

7. The home keys for the left hand are: ____________, ____________, ____________, and ____________.

8. The home keys for the right hand are: ____________, ____________, ____________, and ____________.

9. The ____________ key is between the R and the Y keys.

10. The ______, ______, and ______ keys are used to reset the system.

11. The ____________ key is to the right of the M key.

12. The _________ and __________ keys are between the F and J keys.

INTRODUCTION TO WORD PROCESSING **8-22**
WORK SHEET

NAME:__________________ PERIOD:__________________

PUNCTUATION PRINTOUT

The paragraphs below are taken from page 226 of the textbook Scholastic Computing by Jack L. Roberts. The book is used by 7th grade students in the "Computer Literacy" course.

Load or type the file into a word processing program.

Read the Information very carefully. Some of the capitals and punctuation are incorrect. Use the **strike-over, delete and insert** capabilities of the computer to correct the mistakes. Be sure to put **quotation marks** around words spoken by someone in the story!

Print the file after you have corrected it. Do NOT save your corrected file.

Check your work against the story printed on page 226 of the Scholastic Computing textbook.

EXTRA CREDIT
Take the printed copy and read it again. **Write down your reactions to the story in your notebook.**

CORRECT THE PUNCTUATION MISTAKES

Fifteen-year-old jonas moonstone sat nervously in the global room of the Learning institute. The dean of student advancement stared at jonas's personal productivity file on the computer terminal. his face turned somber, as he shook his head

the computer shows you have failed five knowledge-based inquiries, mr moonstone, the dean said. I think you know what that means

"Explusion," Jonas thought to himself his heart pounding But...but that can't be right, jonas stammered. there must be some mistake in the computer file

"The computer is never wrong mr. moonstone, and it has entered the word EXPULSION next to your name

NAME: ______________________ **PERIOD:** __________

THE WIZARD OF OZ

Load or type the file from the Wizard of Oz.

The following events are found in the story THE WIZARD OF OZ by Frank Baum. But the events are all mixed up! They are not in the right order.

Use your word processor commands to **arrange the events** as they happened in the story. PRINT the correct sequence. Do NOT save the corrected file.

Dorothy tapped her red slippers three times to go home.

Dorothy's house was picked up by a tornado and dropped in Oz.

Dorothy traveled down the yellow brick road with her three companions.

Dorothy threw water on the Wicked Witch of the West.

Dorothy met the Wizard of Oz face to face.

Dorothy met the Scarecrow, the Lion and the Tin Man in the Land of Oz.

NAME: ______________________________ **PERIOD:** __________

BILL COSBY

Type or load the two paragraphs below into a word processing program.

These paragraphs came from the book READER'S DIGEST READING SKILL BUILDER PART 1 - SILVER EDITION. They are part of a story told by Bill Cosby.

But, this paragraph does not have any punctuation. To make the story read better, add the **correct punctuation** and PRINT the story. Do NOT save your corrected file.

- -

it was one of my first (football) games in college it was freezing only a few people came to watch the game we player were not looking forward to playing in the cold our coach decided to give us a pep talk do you want to win this game shouted the coach let me hear you say FIGHT fight we said

let me hear you shout WE WANT TO WIN WE WANT TO WIN we yelled now go out there and get'em yelled the coach All of us jumped up and began screaming our heads off as we started for the door then it got very embarassing the door was locked and we couldn't get out

- -

When you are finished correcting the mistakes and printing out the file, ask your teacher for a correct copy of the document.

Compare your file to the correct copy. Did you find all the punctuation mistakes?

INTRODUCTION TO WORD PROCESSING
WORK SHEET

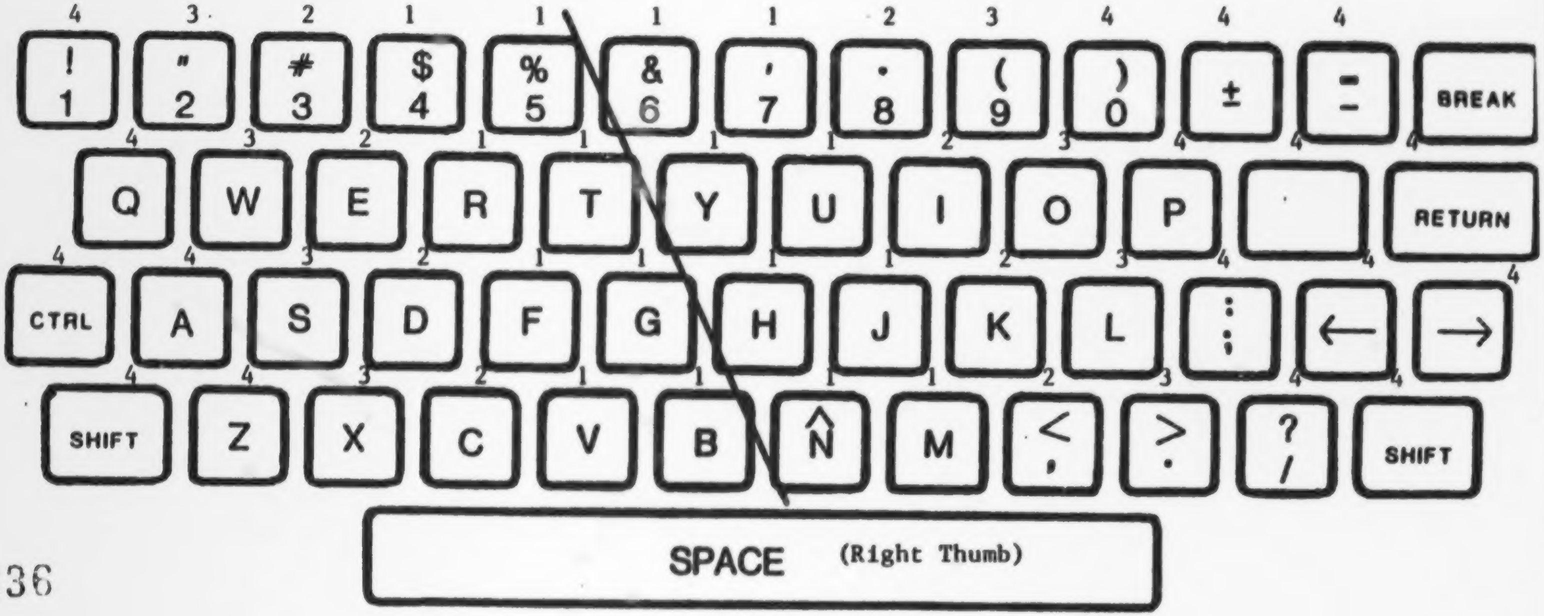
NAME: ____________________

PERIOD: ____________________

TOUCH TYPING FINGER POSITIONS

DIRECTIONS: Color code the keyboard below using the following guide:

home row keys	**red**
keys used by the index finger	**yellow**
keys used by the middle finger	**blue**
keys used by the ring finger	**orange**
keys used by the little finger	**green**



4 3 2 1 1 1 1 2 3 4 4 4
! 1
" 2
# 3
$ 4
% 5
& 6
' 7
. 8
(9
) 0
±
- –
BREAK
4 3 2 1 1 1 1 2 3 4 4 4
Q W E R T Y U I O P
RETURN
4 4 3 2 1 1 1 1 2 3 4 4 4
CTRL A S D F G H J K L
: ;
←
→
4 4 3 2 1 1 1 1 2 3 4 4
SHIFT Z X C V B N̂ M
< ,
> .
? /
SHIFT
SPACE (Right Thumb)

LEFT HAND	RIGHT HAND
1 = index finger	1 = index finger
2 = middle finger	2 = middle finger
3 = ring finger	3 = ring finger
4 = little finger	4 = little finger

INTRODUCTION TO WORD PROCESSING
WORK SHEET

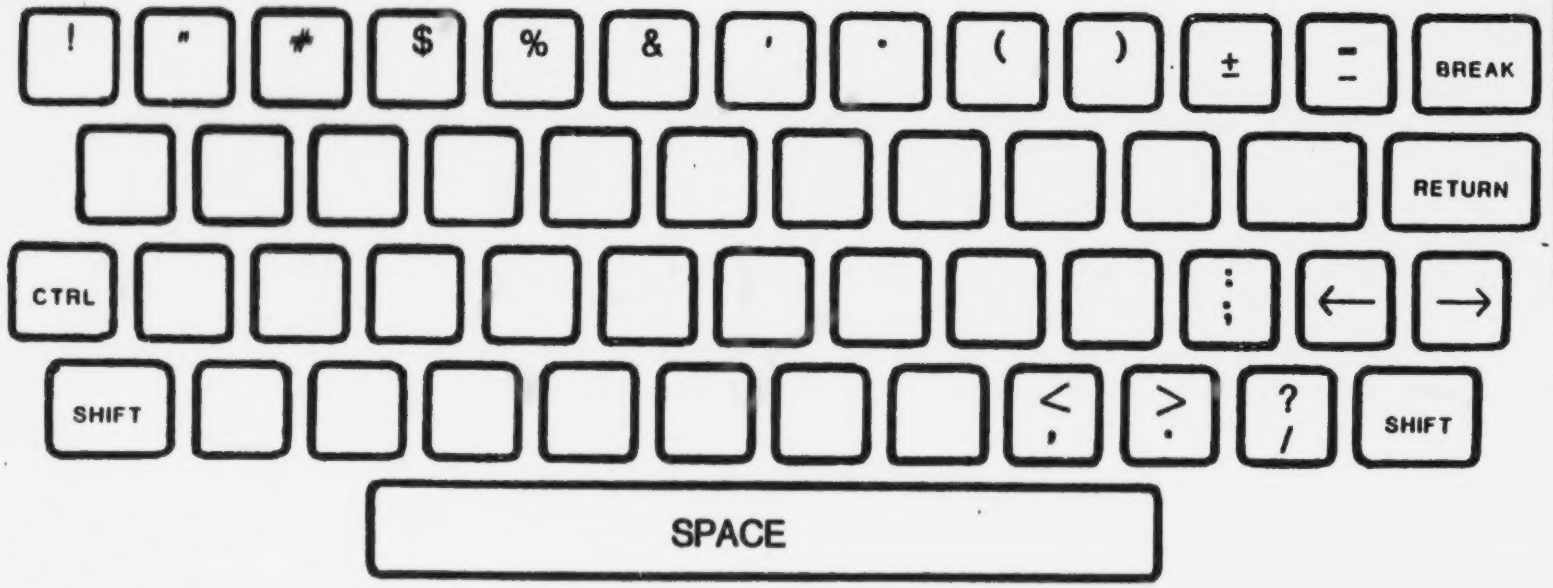
NAME: ______________ PERIOD: ______

8-26

QWERTY KEYBOARD

DIRECTIONS: No matter which way the special function keys are arranged on different brands of computer keyboards, they ALL make use of the QWERTY arrangement of letters and numbers.

fill in the missing letters and numbers using the keyboard from your computer as a guide.



INTRODUCTION TO WORD PROCESSING **8-27**
WORKSHEET

NAME: ________________________________ **PERIOD:** _______

HOMEWORD GUIDE

1. What two things does the ESCAPE key allow you to do? p. 14

2. Where is the PAGE SKETCH located on the screen? What does it allow you to do? p. 14

3. What does the cursor allow you to know? p. 14

4. How can you move the cursor around the screen, or typing area? p. 15

5. What are the pictures called at the bottom of the screen? p. 16

6. When you want to start a new paragraph, what key do you press? p. 18

7. From the menu area, how do you let the computer know what you've chosen form the icons? p. 18

8. What two things does the space bar allow you to do? p. 19

9. What two keys allow you to make corrections? p. 19

10. What must you do before you can print? p. 21

11. Before you actually print, what icon should you use to check for mistakes? p. 21

12. What does the icon "Starting page number" allow you to do? p. 22

13. What happens when you "print to disk"? p. 23

14. What does "Background printing" let you do? p. 23

15. Why is it good to make a back up copy of your document? p. 35

16. When do you choose the icon that shows the word "End"? p. 38

17. What is the most important icon in Homeword? Why? p. 40

18. List two of the four rules for naming a file. p. 40

19. If you master making changes on a document, what must you be sure to do? p. 40

20. What two things does "Get Document" bring up on the screen? p. 40

21. What if you go to "Get Document" and the computer tells you "Document not Found"? What does this mean? p. 41

22. There are six (6) preset layout choices. List them. p. 42

23. If you want to permanently change a document, what icon do you select? p. 43

24. After you have chosen the above answer, and you want to save you selections, what icon do you select? p. 43

25. When you select type of printer, what is the very first thing the computer needs to know? p. 43

26. What do these key do on the screen? p. 46, 47, 48, & 49.

PgDn   PgUp   Ctrl PgDn   Ctrl PgUp

INTRODUCTION TO WORD PROCESSING
HOMEWORD GUIDE

8-29

NAME: ______________________________ **PERIOD:** __________

Match the Homeword functions from the **main menu** to their definition.

27. ________ Print

28. _______ Edit

29. ________ File

30. ________ Layout

31. ________ Customize

32. ________ End

A. To **align the text, start a new page,** set temporary **new margins** and **line spacing, boldface** or **underline** your text, or make headings and/or footings(including page numbering) on your document.

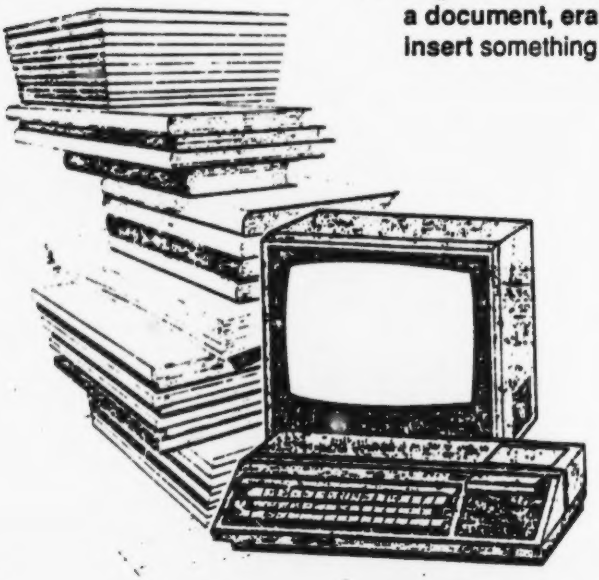
B. To **print on paper, preview** your text, **print to a disk,** or choose a **beginning page number.**

C. To make your Homeword disk fit your needs: **select the drive yourdocument** is in make **back-up copies** to have on file, **save** your customize choices, **change the "permanent" margins** and page size, turn the screen **from a 40 column width,** and tell the computer what **type of printer** you're using.

D. To leave the Homeword word processor program and go to DOS so you can put in Homeword speller, Homeword filer, or a different program or game.

E. To **copy text,erase text, insert erased text, move text, find a word** or a phrase, or find a word or a phrase and **replace** it with something else.

F. **To get a document** out of the computer's file, **save a document, erase a complete document,** or **insert** something from one document into another.



NAME: ______________________________ **PERIOD:** __________

Match the **Homeword** "print functions" to the definitions.

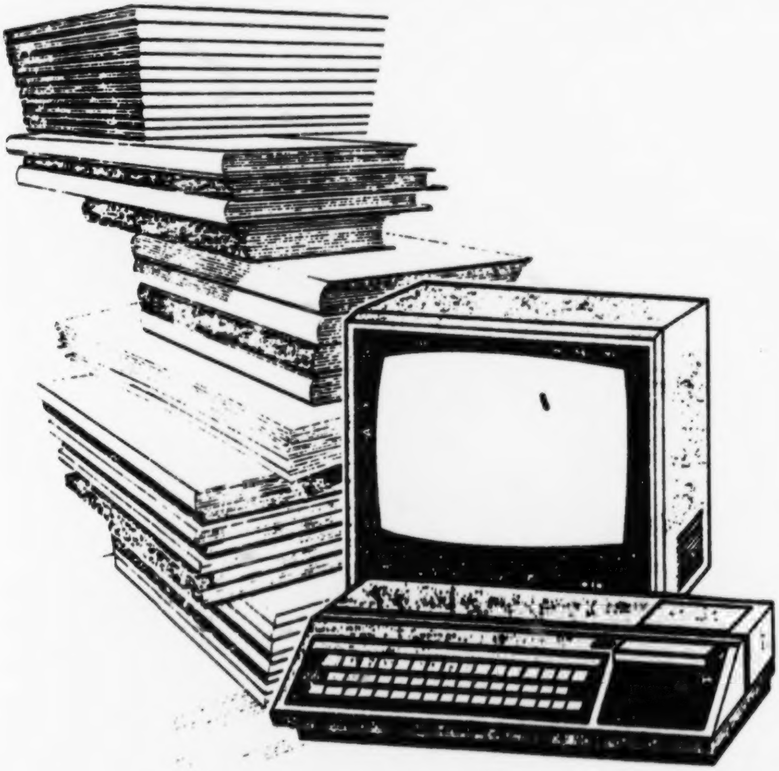
33. ______ print document
34. ______ see final document
35. ______ print to disk
36. ______ starting page numbers

A. This icon shows a **computer monitor screen.** Choose this icon when you want to **see your final document** on the screen before you print it on paper.

B. This icon allows your **document to be modified** so that it can be saved to a disk that can be used with other word processors.

C. This icon shows a **page with an arrow pointing to the page number at the top.** Choose this icon when you want the **first page number of your document to be something other than 1.**

D. This icon shows a **printer.** Choose this icon when you want a **printed copy of your document.**



INTRODUCTION TO WORD PROCESSING
HOMEWORD GUIDE

NAME: ______________________________ **PERIOD:** ____________

Match the Homeword edit function to their defintion.

37. ______ Insert erased test

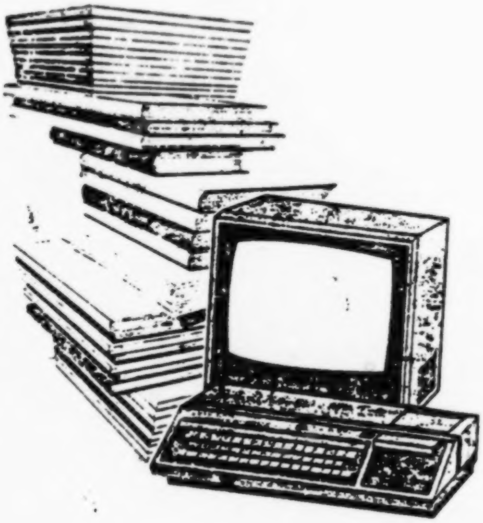
38. ______ Erase text

39. ______ Copy text

40. ______ Move text

41. ______ Find

42. ______ Find and replace



A. This icon **shows a page with an arrow pointing from one line of text to another** place on the document where that same line was copied. Choose this icon when you want to **copy part of your text** in another part of your document.

B. This icon **shows a page with a magnifying glass** over one of the words. Choose this icon when you want to **find a word** or a phrase that you've used in your document. You can find every occurence of that word or phrase through the whole document, or **press ESC** once you've found the one you want.

C. This icon **shows a page with an arrow pointing to an 'X'.** Choose this icon when you want to **erase** part of your document.

D. This icon shows once again a page with a magnifying glass over one of the words. This time there is also an arrow pointing to the "found word." Choose this icon when you want to find a word or phrase in your document and replace it with another word or phrase. You can replace the word once, or every time it occurs in your document.

E. This icon shows an arrow pointing from lines that were erased from text to a page. Choose this icon when you want to insert text you've erased from your document.

F. This icon shows a page with an arrow pointing from a blank area where there once was text to the place where the text was moved. Choose this icon when you want to move part of your text to another place in your document.

INTRODUCTION TO WORD PROCESSING
HOMEWORD GUIDE

NAME: ______________________ **PERIOD:** ____________

Match the Homeword "file functions" to their definitions.

43. ______ get document

44. ______ save document

45. ______ erase document

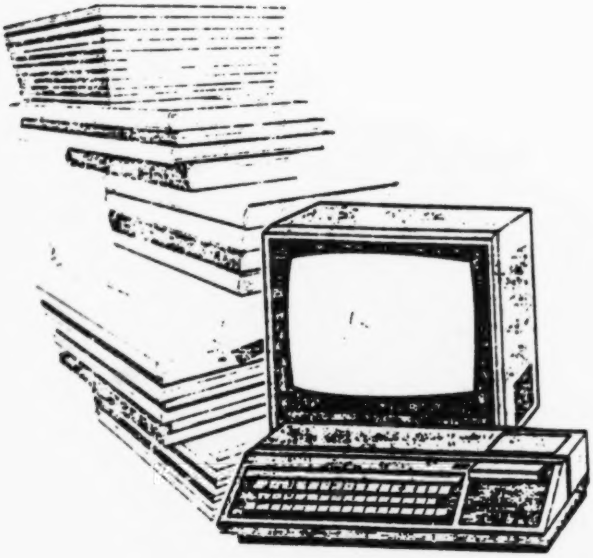
46. ______ insert document

A. This icon shows an **arrow going from a file cabinet to the middle of a page.** Choose this icon when you want to put **two separate documents together** to make a new one.

B. This icon shows an **arrow coming out of the drawer of a file cabinet.** Choose this icon when you want to get a document from the disk's file. The document you choose will then be on your monitor.

C. This icon shows a **file cabinet with an arrow pointing to a large X.** Choose this icon when you want to **permanently erase a document** you have on the disk.

D. This icon shows an **arrow pointing into the drawer of a file cabinet.** Choose this icon when you want to put a **document into the disk's file.**



INTRODUCTION TO WORD PROCESSING
HOMEWORD GUIDE

NAME: ______________________________ **PERIOD:**________________

Match the Homeword "layout functions" to their definition (Page 31-33)

47. ______ Alignment

48. ______ New page

49. ______ Set spacing

50. ______ Print style

51. ______ Headings/footings

A. This icon **shows a page that has both a heading and footing.** Choose this icon when you want a **heading and/or a footing** to appear on the pages of your document.

B. This icon **shows a page with arrows pointing to the margins.** Choose this icon when you want to **change the top or bottom margins**, or set the **paragraph indentations or tab stops.** You can also choose what kind of spacing you want between your typed lines. You may choose single, double or triple spacing.

C. This icon **shows an arrow pointing from one page to a page with the text lined up evenly against the margins.** Choose this icon when you want **either the right or left margins to be even,** or both the right and left margins to be even. Also when you choose this icon, you can **center a line on the page.** Press ENTER to let the computer know this is the icon you are choosing.

D. This icon **shows two "H's"; one in boldface type, and the other in underlined.** Choolse this icon when you want to switch to **boldface type, back to normal type,** or when you want to **underline.** Press ENTER to let the computer know that this is the icon you're choosing.

E. This icon **shows a page of text with an arrow pointing from it to a blank page.** Choose this icon when you want the page you are typing on to **come to an end,** and **a new page to begin.**

INTRODUCTION TO WORD PROCESSING 8-34
HOMEWORD GUIDE

NAME: ______________________________ **PERIOD:** ___________

Match the Homeword "customize functions" to their definition. (Page 35-37)

52. ______ select document drive

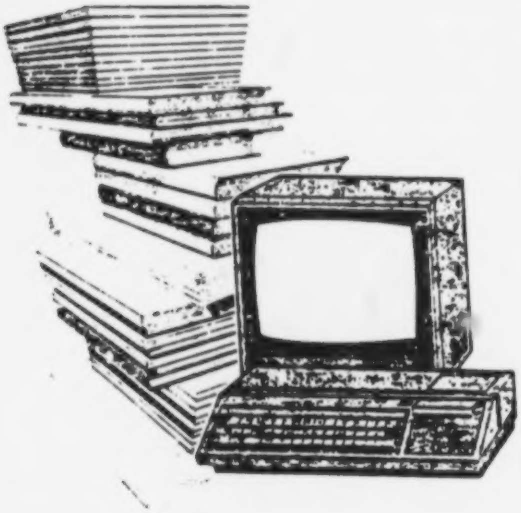
53. ______ make backup document

54. ______ Save customized choices

55. ______ change preset layout

56. ______ toggle 40/80 column screen

57. ______ type of printer



A. This icon **shows a page with arrows pointing to the margins.** It allows you to choose the line **spacing, margins, paragraph indentions, tab stops, and the size of paper** you will use when it's time to print your document. Some of these same choices are in the Layout Menu.

B. This icon **shows an arrow that points to either the number 40 or the number 80.** This icon toggles (switches back and forth) between a **40 and 80 column screen.** Choose this icon if you want to change the number of characters across your screen from 40 to 80.

C. This icon **shows an arrow pointing to two disk drives. If you have two disk drives,** choose this icon to tell the computer that you're going to put your data disk in drive B.

D. This icon **shows a printer.** Choose this icon **to tell the computer what type of printer you are using.** You must do this before you can print properly. More information on this icon is presented in the More About Customize chapter.

E. This icon **shows a line coming out of the symbol for the customize icon and pointing to a file drawer.** Choose this icon when you want to **save** what you chose in the customize section onto your Homeword disk. Your saved choices will remain unless you tell the computer otherwise. Any choices you don't save are temporary--they will be gone the next time you put in your Homeword program.

F. This icon **shows a page with an arrow pointing from it to a drawer of a file cabinet, and then another arrow pointing to another drawer of the file cabinet.** Currently the Homeword is preset not to make backup files. You can decide to have **backup documents** made. "Backup document" means that if you save a file, change it, then save it using the same name again, Homeword will keep the prior version of your document on the disk, with the letters . "BAK" stands for "back-up". It's good to have a backup document, in case you accidentally erase the file.

INTRODUCTION TO WORD PROCESSING   8-35
WORK SHEET

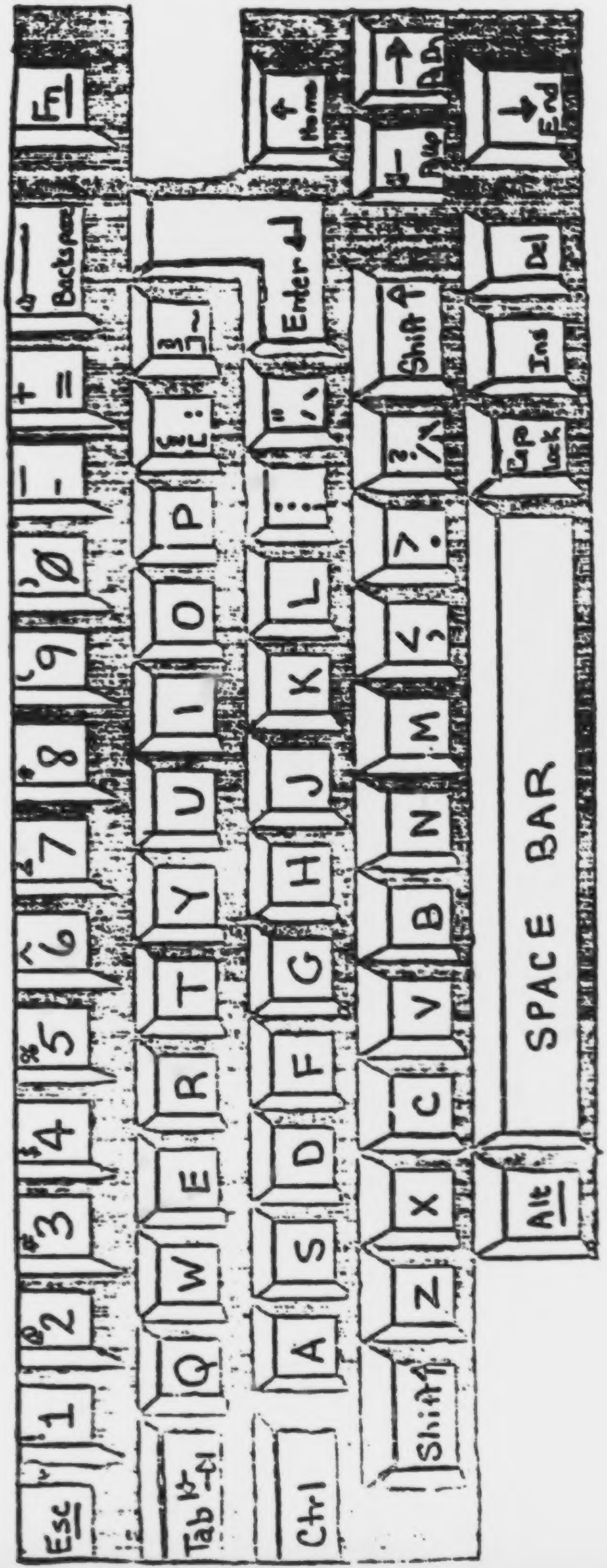
NAME: ______________________________ **PERIOD:** ____________

←	____________________	Ctrl PgUp	____________________
Ctrl →	____________________	End	____________________
Ctrl ←	____________________	Ins	____________________
↓	____________________	Ctrl PgDn	____________________
↑	____________________	⇆	____________________
PgDn	____________________	⇧	____________________
Del	____________________	Caps Lock	____________________
PgUp	____________________	F1	____________________
Back Space	____________________	Home	____________________
→	____________________	Ctrl End	____________________

INTRODUCTION TO WORD PROCESSING WORKSHEET

NAME: ______________________ PERIOD: ______________

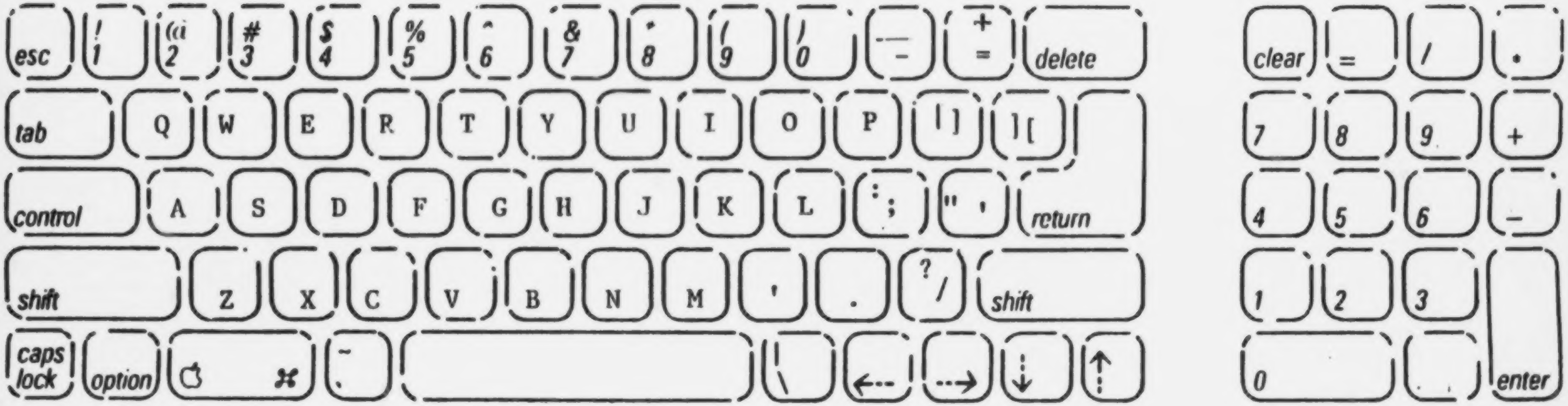
IBM PC JR KEYBOARD


Esc
1
2
3
4
5
6
7
8
9
Ø
-
=
Backspace
Fn
Tab
Q
W
E
R
T
Y
U
I
O
P
Ctrl
A
S
D
F
G
H
J
K
L
Enter
Home
Shift
Z
X
C
V
B
N
M
Shift
PgUp
PgDn
Alt
SPACE BAR
Caps Lock
Ins
Del
End

WORKSHEET

NAME: ______________________________ **PERIOD:** ____________

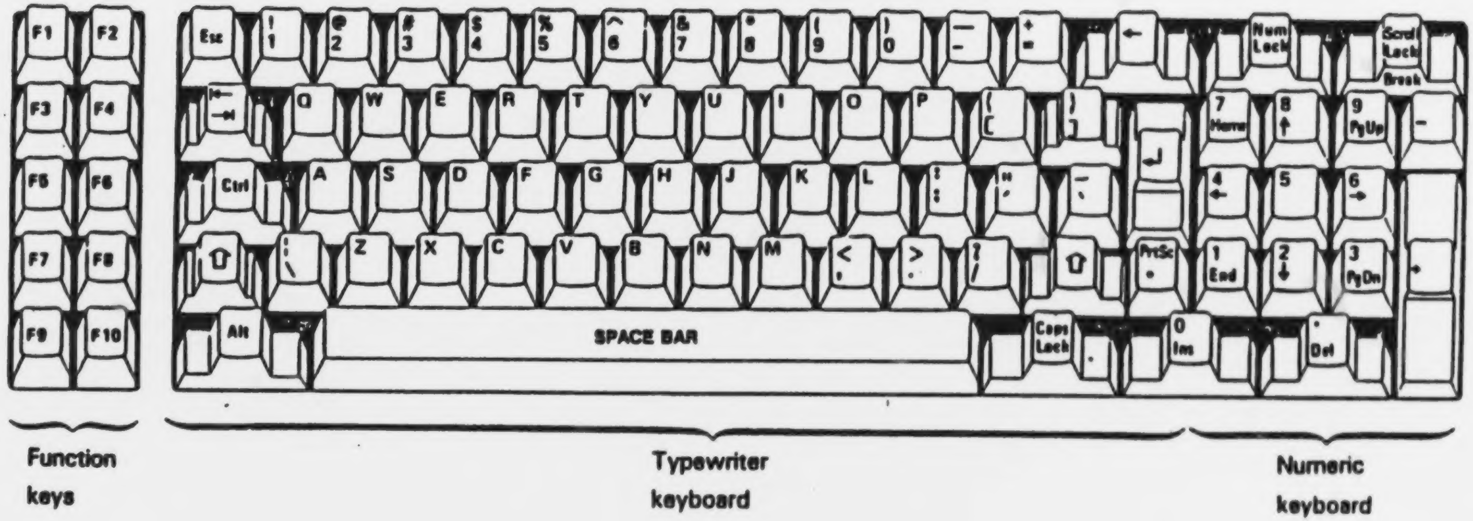
APPLE II GS KEYBOARD


esc
! 1
@ 2
# 3
$ 4
% 5
^ 6
& 7
* 8
(9
) 0
_ -
+ =
delete
tab
Q
W
E
R
T
Y
U
I
O
P
clear
=
/
.
7
8
9
+
control
A
S
D
F
G
H
J
K
L
: ;
" '
return
4
5
6
-
shift
Z
X
C
V
B
N
M
,
.
? /
shift
1
2
3
caps lock
option
~
\
0
.
enter

INTRODUCTION TO WORD PROCESSING WORKSHEET

NAME: ____________________ PERIOD: ____________

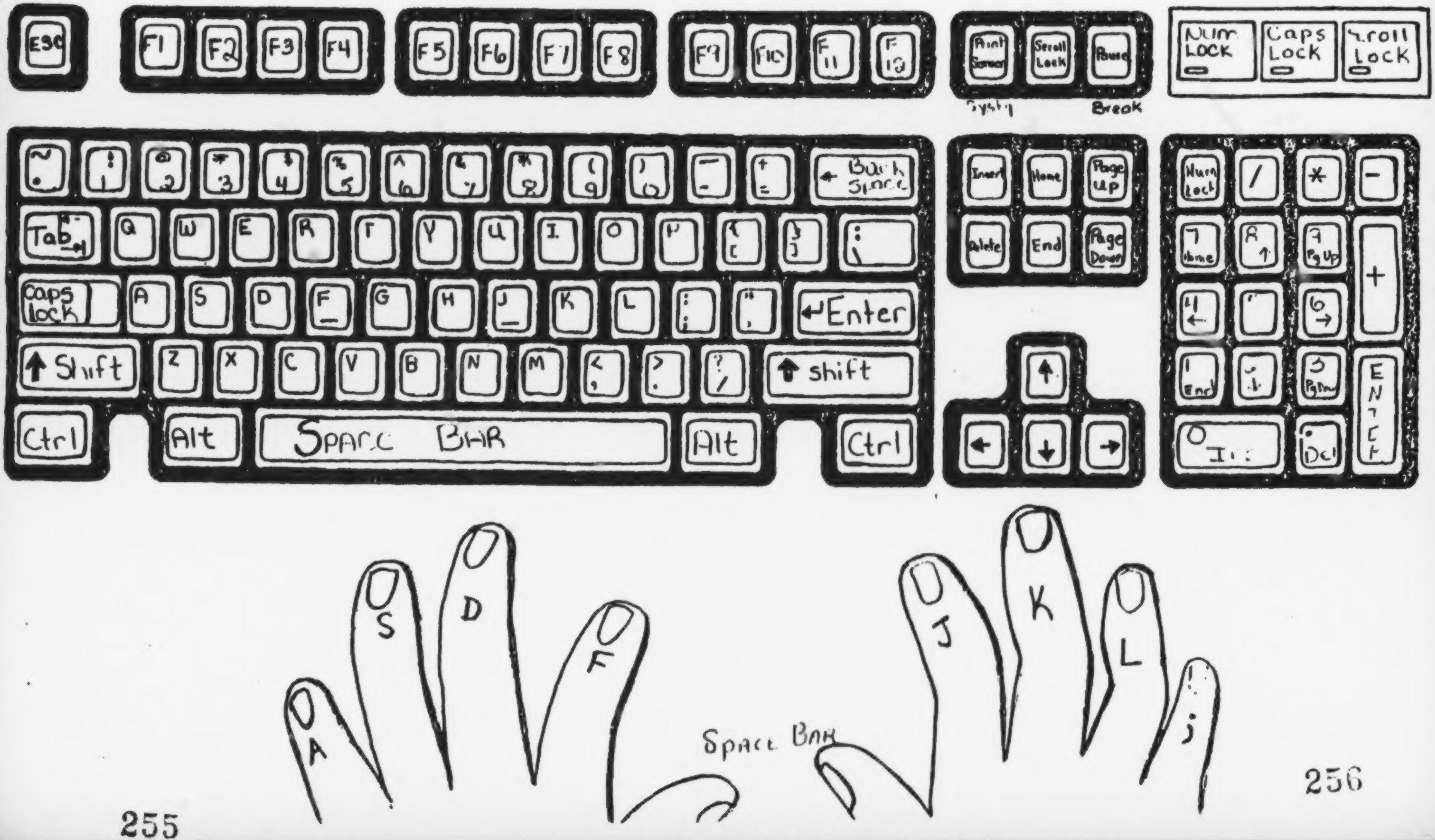
IBM PC KEYBOARD


Function keys
Typewriter keyboard
Numeric keyboard
SPACE BAR

INTRODUCTION TO WORD PROCESSING WORKSHEET

NAME: ______________________________ **PERIOD:** ________

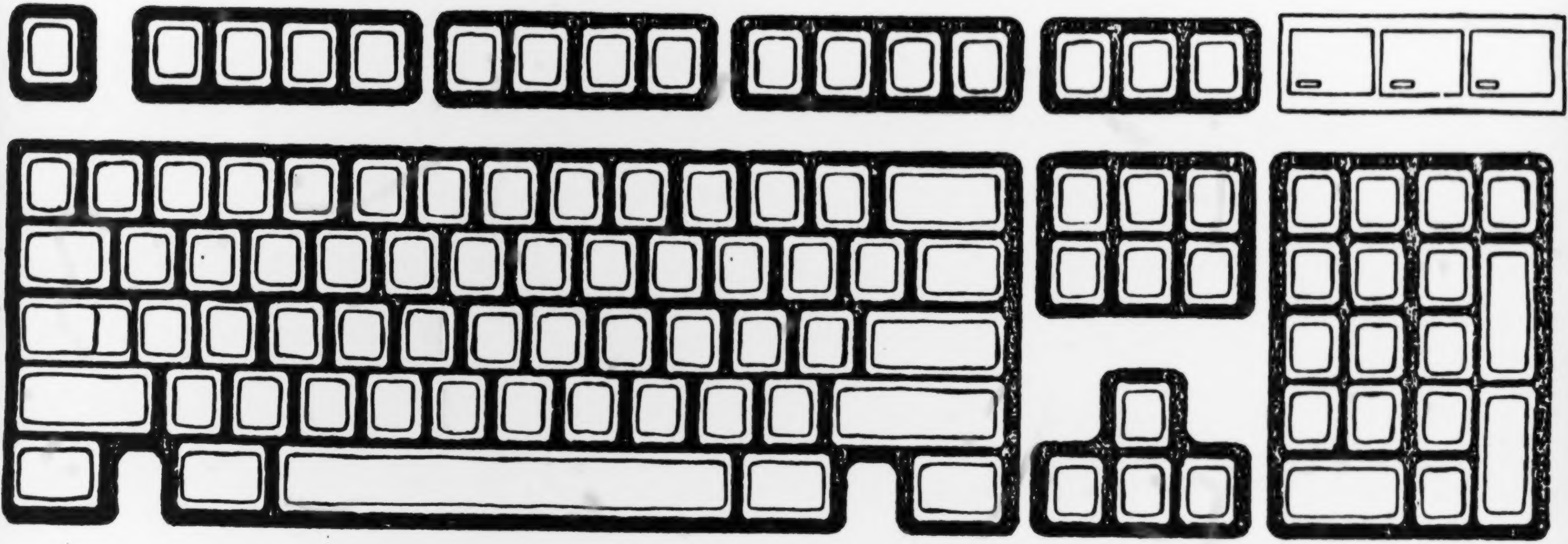
IBM Personal System/2 Model 25 Keyboard


Esc
F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12
Print Screen
Scroll Lock
Pause
SysRq
Break
Num Lock
Caps Lock
Scroll Lock
~ ` ! 1 @ 2 # 3 $ 4 % 5 ^ 6 & 7 * 8 (9) 0 _ - + =
← Back Space
Tab
Q W E R T Y U I O P { [}] | \
Caps lock
A S D F G H J K L : ; " '
↵Enter
↑ Shift
Z X C V B N M < , > . ? /
↑ shift
Ctrl
Alt
Space Bar
Alt
Ctrl
Insert
Home
Page Up
Delete
End
Page Down
↑ ← ↓ →
Num Lock
/
*
-
7 Home
8 ↑
9 Pg Up
+
4 ←
5
6 →
1 End
2 ↓
3 Pg Dn
Enter
0 Ins
. Del
A
S
D
F
J
K
L
;
Space Bar

WORKSHEET

NAME: ______________________________ **PERIOD:** ________

IBM Personal System/2
Model 25 Keyboard



PACKET: DATABASES AND COMPUTER COMMUNICATIONS 9-1

INTENDED OUTCOME ADDRESSED IN THIS UNIT:

The student will identify the major uses of computer database systems.

The student will identify the vocabulary related to a computer-based file system.

The student will add records to and delete records from a computer database file system.

The student will locate specific records in a database by using a search strategy.

The student will produce a printed list of entries that have been searched, selected, and sorted with a database file system.

The student will identify the components of a computer telecommunications system.

The student will identify the major uses of a computer telecommunications.

The student will be able to define the terms associated with the computer telecommunications field.

INTRODUCTION

This packet contains teacher strategies, study sheets, sample tests and a self-help module for students to take home.

Included in this unit are Textbook Worksheets which are correlated by page and paragraph to the Scholastic Computing textbook. These worksheets have been used successfully with students who have poor reading and study skills. They provide a structured study guide to the information in the textbook. Scholastic Inc. has granted permission to copy these sections of the textbook.

VOCABULARY

acoustic coupler (old terminology)
baud
computer communication
data base
data base management
download
electronic mail
field
file
format
information service
modem
record
retrieve specifications
telecommunication
upload

SUGGESTED TEACHING STRATEGIES

Select appropriate classroom and take home activities needed to implement and reinforce the objective. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your school media specialist, from the Palm Beach County School Board Film Library or from your personal collection.

Make a list of ways that **schools** could make use of a computerized **filing system.**

Select any, or all, of the following **job** examples and make a **list of applications** where computerized filing makes the job more efficient: homemaker, teacher, student, scientists, policeman, lawyer, stock broker, banker, real estate agent, salesman and hotel manager.

Contact a **retail computer dealer** and research the price for the minimum system requirements (both hardware and software) for a specific data filing application.

The teacher should demonstrate a **prepared example of a computer database** file using an available database software program. If a database software program is not available in the classroom, obtain a copy of the public domain MSDOS database available at FDLRS/Alpha.

Demonstrate the general functions of a database including: **add, delete, search, select, sort, and print** functions.

Have students make a series of "dummy" entries to practice adding, sorting and deleting files in a database program. Use the worksheet entitled **"Club Roster"** to assist with this exercise. If a database software program is available, have students key in one of the exercises provided in the worksheet section. ESE students may require additional computer time to successfully complete assignments.

For additional practice, have students complete the **"Presidents Database"** worksheet. The exercise can be completed without a computer if necessary.

Have students complete the **"Career Awareness"** worksheet to help them understand that the information to be used in a database must be collected and prepared so that it can be keyed into the computer.

Visit the **school's data-processing center.** Observe the use of the equipment involved in data transfer; specifically, the computer and the modem, to transfer information between the school and county office.

If available, use a **modem and a computer to demonstrate access of a data-base.** In the process, send (transmit) and receive (download) data via the telephone lines.

Discuss computer **telecommunications** as they are presently being used in the **areas of business, industry, education, and home/personal applications.**

Participate in a class discussion about the subject of "telecommunications". During this discussion, identify, define, and use the terminology associated with computer telecommunications.

a. Modem
b. Baud-rate
c. Full/half duplex
d. ASCII
e. Bit
f. Carrier signal
g. Communications Software
h. Parity
i. Upload
j. Download

DATABASES AND COMPUTER COMMUNICATIONS 9-3
TEXTBOOK WORKSHEET

NAME: ______________________________ **PERIOD:** __________

CHAPTER 9

Directions: This worksheet accompanies Chapter 9 - Databases and Computer Communications, in your textbook Scholastic Computing by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Fill in the missing information or words according to the specified pages and paragraphs.

Begin on **Page 158**

1. The word ____________________ simply means ____________________. (Paragraph 4)

2. That information may be ____________________ or ____________________ ____________________. (Paragraph 4)

3. A ____________________ is a ____________________ point or ____________________ location for some activity. (Paragraph 4)

4. .....think of a ______________ ______________, then, as a central location or collection of stored information. (Paragraph 4)

5. Usually, information in a data base is ____________________ in some way. (Paragraph 1)

6. List four (4) examples of a data base. (Paragraph 5)
    a. ____
    b. ____
    c. ____
    d. ____

7. A data base management program is a ____________________ program that ____________________ --____________________, ____________________ and ____________________-- data (or information). (Paragraph 6)

8. You can think of it as an electronic ____________________ cabinet or card box. (Paragraph 6)

Page 159

9. Different ______________________________ or items of information are called ____________________. (Paragraph 1)

10. A "______________________________" is a collection or ________________ of related fields. (Paragraph 2)

11. List the five fields that make up a record in the address book sample. (Paragraph 3)
    a. ______________________________
    b. ______________________________
    c. ______________________________
    d. ______________________________
    e. ______________________________

12. The words "____________________" refers to a collection of ________________ records. (Paragraph 3)

13. A file may consist of __________________________, hundreds, or even thousands of ____________________. (Paragraph 3)

14. A data base management program on a computer can sort through hundreds of names and find just the information you want ________________ and ________________. (Paragraph 7)

Page 160

15. ...the first thing you will see is a ____________________-- a ______________ of the different things the ____________________ will do. (Paragraph 2)

16. Your first step in using a data base management program is to " ____________________ a ____________________" (Paragraph 3)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

17. The program will ask you to ______________________________
the file you want to ____________________________________.
(Paragraph 3)

18. ....you must first decide what _______________________________
of information you want to have in your data base. (Paragraph 4)

19. Based on these categories, you must develop a __________________
___________________________ or _______________________
of the ___________________________ you want in each . . . .record.
(Paragraph 5)

20. The ________________________ of _______________________
that you can have in your format depends on the program you are using
(Paragraph 7)

21. Some programs _________________________ the
___________________________ or number of characters that
each field can hold. (Paragraph 8)

Page 161

22. Developing your _________________________ is the most
________________________ step in setting up any data base
management program. (Paragraph 2)

23. ....Many people design their format on paper ____________________.
(Paragraph 2)

24. What are the two steps that you must follow before you enter the
information? (Paragraph 2)
a. ____
b. ____

25. What happens after you have typed in the information for one record,
and press the RETURN or ENTER key?
____ (Paragraph 4)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

26. Once you have all your records stored in a ____________________,
you can then ____________________________ that file in a number
of different ways. (Paragraph 6)

27. What are the first two steps to have a computer search a file?
(Paragraph 7)
a. ____
b. ____

28. ....programs call these key words the __________________________
(Paragraph 7)

Page 162

29. Whenever the computer finds a record that has the same
________________________ as your _____________________
specifications, that record will appear on the screen. (Paragraph 1)

30. With one data base management program, you can
_________________________________ the exact characters you
are looking for by putting ___________________________ periods
before and after the characters you want. (Paragraph 5)

31. What symbol do you use to specify "less than"? ____________
(Paragraph 7)

32. You can ____________________________ an entire record, or you
can specify certain ____________________________ of each
record you want printed. (Paragraph 8)

ANSWER THE **CHECKPOINT QUESTIONS** HERE. WORTH **EXTRA CREDIT** POINTS.

33. Using a cookbook as an example, explain the difference between a file,
a record, and a field.
____
____

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Checkpoint questions continued

34. Explain two ways that "a format" is used in a data base management program.
    a. ______________________________
    b. ______________________________

35. Explain the difference between an **exact match** and a **partial match** method of searching for information in a file.
    ____
    ____

Page 165

36. Many ______________________ resources are available to you if you have a computer and a small device called a ______________________. (Paragraph 3)

Page 165

37. ....people call computer communication "______________________" because computer telecommunication uses telephone lines to send information back and forth from one computer to another. (Paragraph 6)

38. What are the two things you need in order for two computers to talk to each other? (Paragraph 7)
    a. ______________________________
    b. ______________________________

39. The word "modem" is short for ______________________ ______________________. (Paragraph 9)

40. ....moulate means to ______________________ the ______________________ signals that a computer understands into audio tones that can be sent across telephone lines. (Paragraph 9)

41. ______________________ means to change those ______________________ back to electrical signals. (Paragraph 9)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Page 166

42. ...you call the telephone ______________________ of the ______________________ you want to connect to. (Paragraph 1)

43. You then ______________________ the information you want to send on your computer keyboard. (Paragraph 1)

44. That information goes out your modem, which is ______________ into your telephone ______________________. (Paragraph 1)

45. At the other end, ______________________ modem, connected to a telephone and a computer, ______________ the ______________________ or tones that come across the telephone lines back into electrical ______________ that the computer at the other end can understand. (Paragraph 1)

46. List and describe the two types of modems that most people use. Tell how each operates. (Paragraph 2)
    a. ____
    b. ____

Page 167

47. What are the two speeds that most modems have? (Paragraph 1)
    a. ____
    b. ____

48. ______________________________ is simply a term that is used to tell how ______________________ information is ______________________ from one computer to another. (Paragraph 1)

49. Identify the difference between the two rates of speed. (Paragraph 1)
    a. ____
    b. ____

50. Define the word "download."(Paragraph 2) ______________________
____

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

51. When would someone wish to have a modem that has a 300-baud rate? (Paragraph 3) ______________________________
____

52. When would someone wish to have a modem that has a 1200-baud rate? (Paragraph 4) ______________________________
____

Page 168

53. Some computers have ______________________
______________________ built ______________________ by
the manufacture; others ____________ ____________________.
(Paragraph 1)

54. Define "upload." (Paragraph 1)
____
____

55. List some of the features that different telecommunications software packages offer. (Paragraph 1)
a. ______________________________
b. ______________________________
c. ______________________________
d. ______________________________
e. ______________________________

Page 170

56. Define "general" information service". (Paragraph 1)
____

57. What are the four different names that people call general information services? (Paragraph 1)
a. ______________________________
b. ______________________________
c. ______________________________
d. ______________________________

58. How much can a specialized service cost? (Paragraph 2) __________

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

Page 170

59. When you subscribe to an information service, what two things do you receive? (Paragraph 3)
 a. ____________________
 b. ____________________

Page 171

60. What three things must you do to get the service's main menu to appear on the screen? (Paragraph 1)
 a. ____________________
 b. ____________________
 c. ____________________

61. What is the most popular feature of a general information service? (Paragraph 5) ____________________
____

62. ______________ mail makes it ______________
to ____________________ all kinds of information from your computer to the computer of someone else. (Paragraph 5)

Page 172

63. Another feature of the communications data base is called the "______________ ______________". (Paragraph 1)

64. Define "chat". (Paragraph1) ____________________
____

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

ANSWER THE FOLLOWING **CHECKPOINT QUESTIONS** COVERING THE INFORMATION ON PAGES 165 TO 172. WORTH **EXTRA CREDIT** POINT.

65. What does the term "modem" stand for? What is the purpose of a modem? ______________________ ____________________________

66. What does the term baud mean? What is the difference between a 300-baud and a 1200-baud modem? ____________________________

67. What is another name for an information service? What are some data bases that are available through general information services?

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

DATABASES AND COMPUTER COMMUNICATION 9-11
SAMPLE TEST

NAME: ______________________ PERIOD: __________

DO YOU KNOW THESE DATA BASE WORDS?

DIRECTIONS: Match the term to its definition. Use the definitions A - E to answer questions 1-5.

_____ 1. file

_____ 2. data

_____ 3. report

_____ 4. classify

_____ 5. menu

A. putting information into groups that have things in common.

B. a list of options in a program.

C. collection of related records.

D. the printed document created using a database program.

E. information

DIRECTIONS: Use the definitions in F - J to answer questions 6 - 10.

_____ 6. record

_____ 7. field

_____ 8. sort

_____ 9. retrieve

_____ 10. database

F. an organized collection of **information**

G selected specific fields in customized order

H. collection or listing of related **fields**

I. category

J. to "call up" desired information

DATABASES AND COMPUTER COMMUNICATIONS 9-12
SAMPLE TEST

NAME:________________ PERIOD:________________

TELECOMMUNICATIONS

DIRECTIONS: Match the following terms to its definition. Use the letters A - E to answer questions 1 - 5.

_____	1. baud	A. Storage compartment in the computer's memory which 'holds' information for later use.
_____	2. upload	B. Remote, text-only communication from one computer to another computer through telephone lines.
_____	3. buffer	C. Process if sending information to another computer.
_____	4. electronic mail	D. Refers to the speed at which messages are sent. Standard rates are 300 and 1200.
_____	5. Information service	E. A collection of data banks available to computer users.

DIRECTIONS: Use letters F - I to answer questions 6 - 9.

_____	6. modem	F. Process of receiving information from a computer.
_____	7. on-line	G. Portable modem connected to any telephone by placing the handset into a rubber cradle.
_____	8. download	H. Time during which two computers are sending and/or receiving information.
_____	9. acoustic coupler	I. A device that translates computer signals into telephone signals.

DATABASES AND COMPUTER COMMUNICATIONS
SAMPLE TEST

NAME:________________ PERIOD:________________

1. Which of the following are present-day uses of computer telecommunications?

   a. Transferring grade and scheduling information from the county school office to the individual school centers through the computer.

   b. Doing library research from home through the use of data-base and a computer/modem.
   c. Using the computer/modem as an electronic mail delivery system.

   d. All of the above are present-day uses of computer telecommunications.

2. Computer telecommunications allows the user to send printed information over long distances through telephone lines.

   a. True

   b. False

3. "Electronic mail" means

   a. "Hearing" your messages over the telephone.

   b. Having your message delivered to your computer through telephone lines.

   c. The same thing as having a telephone answering machine.

   d. A new way for the post office to sort mail.

STUDY GUIDE

Select Study Sheets and Worksheets from the Study Guide section to provide students with take-home material to reinforce skills learned in class.

Reproduce only those materials that relate to the needs and ability level of the student. Use the Sample Tests to ensure student mastery of the objectives.

DATABASES AND COMPUTER COMMUNICATIONS **9-14**
STUDYSHEET

NAME:__________________ PERIOD:__________________

WHAT IS DATA BASE MANAGEMENT

One of the most powerful tools of the **"Information Age"** is the **data base.** A database is **a collection of information on a particular subject.** The information is stored on a disk. Dictionaries, encyclopedias and telephone books are all examples of **non-electronic data bases.**

Data files differ from other files in that you can have the computer **organize and present stored information** in exactly the way you want to use it.

A **record has common characteristics called fields.** The user defines the fields by name. One example is

RECORD

NAME:
ADDRESS:
CITY:
ZIP:
TELEPHONE NUMBER:

FIELD

Name, address, city, zip and telephone number, in the example above, are fields. When you have typed information into all five fields, you have completed one record. All of the names and address information together make **a file.**

In the example above, you could decide to sort the file in alphabetical order by name, or you could sort the file by city or zip code.

An important characteristics of data files is that the contents can be easily changed with the **edit function.** You can add, delete, or modify information on the files.

A database program allows a person the options of **retrieving data** and **designing the printout (hardcopy)** in a number of different formats. It can sort the forms and perform computations on numeric data. You can customize the report to fit your needs. In the example above, you may want to print out mailing labels. You do not need the telephone number to appear on the label. You can **customize your report format** so that only the name, address, city and zip code are printed.

A data base management program is one of the most widely used types of **application programs.** A data base manages, organizes, stores, and retrieves information, electronically.

Data base management programs can be used on a variety of computers for a **variety of tasks.** A business may use a data base management program to keep records on employees or supplies. Schools may use a data base management program to keep track of student's schedules and grades. Individuals could use a data base management program for a mailing list of relatives or friends or to keep an inventory of a valued collection or recipes.

A **plan** must be followed in using a data base management program. The number of categories called "fields" and **names for the fields** must be decided. The fields are entered into the computer to create a "template". The template appears on the screen so that you can enter the data consistently. In the example used above, the "template" on the screen would look like this:

NAME:
ADDRESS:
CITY:
ZIP:
TELEPHONE NUMBER:

Once you create a template, you are ready to enter the data, then, the program can be used to sort and print out the desired information. Information can be sorted numerically or alphabetically and selected records can be printed out. When information needs to be changed, records can be altered or even deleted.

DATABASES AND COMPUTER COMMUNICATIONS STUDY SHEET

9-16

NAME:________________ PERIOD:________________

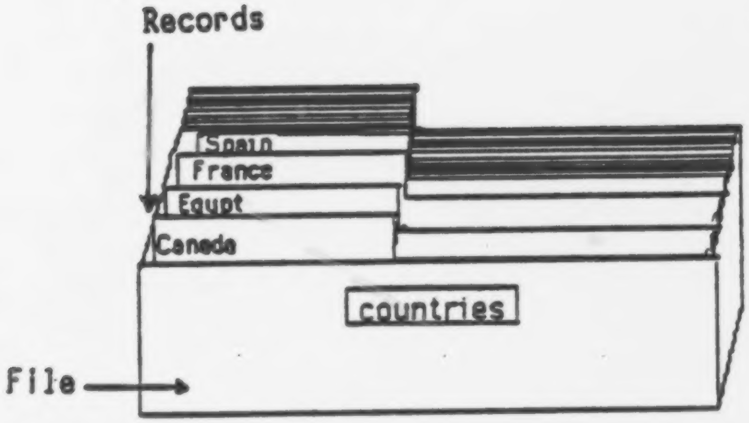
DATABASE WORDS YOU NEED TO KNOW:

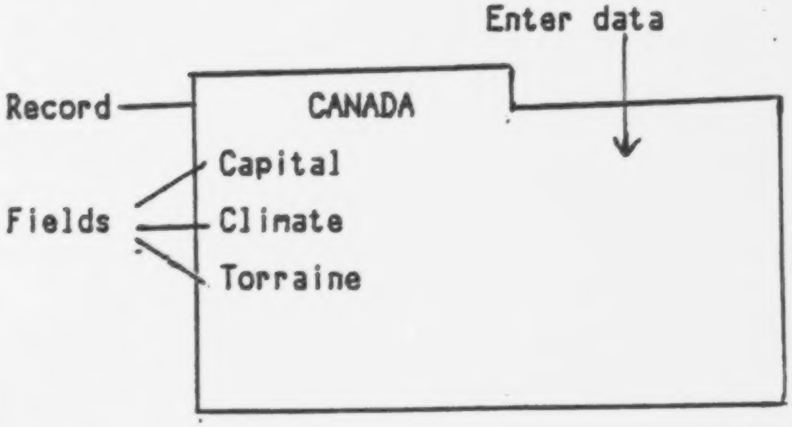
Character:	letters of the alphabet
Classify:	putting information into groups that have things in common.
Cursor:	the blinking light that indicates your position on the screen
Data:	information
Database:	an organized collection of information
Delete:	to get rid of unwanted information
Edit:	change data
Field:	category
File:	collection of related records
Menu:	a list of options within a particular program
Record:	collection or listing of related fields
Report:	the printed document created using a database program
Retrieve:	to "call up" desired information
Search:	to look for a particular file or record
Select:	tells the software to look through the files to find the special record you want.
Sort:	selected specific fields in customized order
Template:	a standard file format that can be customized or adapted to meet an individual's personal needs

DATABASES AND COMPUTER COMMUNICATIONS **9-17**
STUDY SHEET

NAME: ______________________________ **PERIOD:** __________

PARTS OF A DATABASE


Records
Spain
France
Egypt
Canada
countries
File


Enter data
Record
CANADA
Capital
Fields
Climate
Torraine

WORKSHEET

NAME:__________________ PERIOD:__________________

ADVANTAGES/DISADVANTAGES

Large databases are used to store a great deal of information about people. In the spaces below list four advantages and four disadvantages of these large databases.

Advantages:

1. ____
2. ____
3. ____
4. ____

Disadvantages:

1. ____
2. ____
3. ____
4. ____

What solutions do you see for using databases to our full advantage and overcoming the disadvantages?

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DATABASES AND COMPUTER COMMUNICATION WORKSHEET

9-19

NAME:____________________ PERIOD:____________________

CLUB ROSTER PRINTOUT

List of Available Clubs at Springfield Middle

Skateboarding
Karate
Bowling

Database information includes:

Name, school, grade, birthdate, hobby, bus Y/N

1. Gertrude Kantrowitz
   Springfield Middle School
   7th Grade
   12/5/76
   Skateboarding Y

2. Robert Shuman
   Springfield Middle School
   7th Grade
   4/17/76
   Roller derby Y

3. Lucy Dawn
   Springfield Middle School
   8th Grade
   10/2/75
   Bowling N

4. Kris Liebermand
   Springfield Middle School
   8th Grade
   6/5/75
   Karate N

5. Bebe Tong
   Springfield Middle School
   8th Grade
   1/12/75
   Bowling N

6. Norma Trevisol
   Springfield Middle School
   7th Grade
   4/30/76
   Karate N

7. Isaac Verlain
   Springfield Middle School
   8th Grade
   12/5/75
   Bowling N

8. Robin Webster
   Springfield Middle School
   7th Grade
   3/17/76
   Bowling Y

9. Marcy Adams
   Springfield Middle School
   8th Grade
   11/24/75
   Karate Y

10. Alissa Hopmeyer
    Springfield Middle School
    7th Grade
    6/23/76
    Skateboarding Y

DATABASE AND COMPUTER COMMUNICATION WORKSHEET

9-20

NAME:________________ PERIOD:________________

CLUB ROSTER REPORT

You are the **Dean of Students** in charge of extra-curriculum activities at Springfield Middle School.

Ten new students registered at school today. You have been given a **computer printout** of the students and must **assign them to a club**. This requires that you generate several reports. If you have a database program, you may enter the data and generate the reports required. If you do not have a database program, you can 'simulate' the reports by doing them by hand.

Based on the information provided on the **Club Roster Printout**, complete the information:

1. The principal needs an **alphabetical list** of the new students with the **grade**.

STUDENTS NAME (LAST NAME, FIRST NAME)	GRADE

2. There are **three clubs that need a list of students** who will be added to their roster.

Skateboarding	**Karate**	**Bowling**

One student needs to select another club. What is the name of that student? __________

3. The Dean in charge of transportation needs an alphabetical list of students who will ride the bus.

4. The Bowling Team try-outs are next week. The coach would like a list of students who might want to try out for the team. He needs the list arranged by birthdate so he can report eligibility to the athletic director.

BIRTHDATE	NAME OF STUDENT

NAME:________________ PERIOD:________________

CAREER AWARENESS DATABASE - PART I

Directions: Using the information provided by Terry and Pat, fill in the 'fields' of this database.

Note: If a database program is available in the classroom, this activity can be completed on the computer. If a database program is not available, you can 'simulate' database activities by filling in the information by hand.

Classification: ________________________________
Employer: ________________________________
Address: ________________________________
City: ________________ State: __________ Zip: ________
Telephone: ________________________
Contact Person: ________________________________

Classification: ________________________________
Employer: ________________________________
Address: ________________________________
City: ________________ State: __________ Zip: ________
Telephone: ________________________
Contact Person: ________________________________

Classification: ________________________________
Employer: ________________________________
Address: ________________________________
City: ________________ State: __________ Zip: ________
Telephone: ________________________
Contact Person: ________________________________

Classification: ________________________________
Employer: ________________________________
Address: ________________________________
City: ________________ State: __________ Zip: ________
Telephone: ________________________
Contact Person: ________________________________

Classification: ____________________
Employer: ____________________
Address: ____________________
City: __________ State: ______ Zip: ______
Telephone: _______________
Contact Person: ____________________

Classification: ____________________
Employer: ____________________
Address: ____________________
City: __________ State: ______ Zip: ______
Telephone: _______________
Contact Person: ____________________

Classification: ____________________
Employer: ____________________
Address: ____________________
City: __________ State: ______ Zip: ______
Telephone: _______________
Contact Person: ____________________

Classification: ____________________
Employer: ____________________
Address: ____________________
City: __________ State: ______ Zip: ______
Telephone: _______________
Contact Person: ____________________

Classification: ____________________
Employer: ____________________
Address: ____________________
City: __________ State: ______ Zip: ______
Telephone: _______________
Contact Person: ____________________

Classification: ____________________
Employer: ____________________
Address: ____________________
City: __________ State: ______ Zip: ______
Telephone: _______________
Contact Person: ____________________

DATABASES AND COMPUTER COMMUNICATIONS **9-24**
STUDY SHEET

NAME: ______________________________ **PERIOD:** __________

PAT'S DATA

RECEIVED JAN 15

Sales Person
Turf N' Surf
328 Fifth Street
Hopetown, FL 33499
(407) 765-3267
James Goodwin

Cashier
Steam N' Beam Dry Cleaners
5772 Sunset Blvd.
Lake City, FL 33497
(407) 632-2247
Heidi Tenenbaum

Food Service
Burger Buzzard
5751 Sunset Blvd.
Lake City, FL 33497
(407) 632-1009
Pamela Picardo

Stockman
Super Mart
184 First St.
Hopetown, FL 33499
(407) 765-1498
Ramon Finkelstern

Cashier
Beak N' Claw
561 Seventh St.
Hopetown, FL 33499
(407) 765-3708
Hyman McPherson

DATABASES AND COMPUTER COMMUNICATIONS
STUDY SHEET

NAME: ______________________ PERIOD: ________

TERRY'S DATA

RECEIVED JAN 30

Sales Per. Call Vic Hugo ~~632-7189~~ 632-1131
Bike Hike
5879 Sunset Bl.
L.C. 33497
(407)

~~Judy~~
~~765-3059~~

~~Pick up laundry~~
~~Make reservations~~

Stockman
Big Deal Grocery
Harry Biltswitch
6019 Sunset B.
L.C. 33497
(407) 632-5557

"Frank"
Party Pizza
Food Service
267 2ND St.
Hopeton—— Fl 33499
( ) 765-0079

Food Service
Fast Food First
231 Second St.
Hopetown, FL 33499
(407) 765-3281
John Young

Cashier
~~Bob~~ Robert Hefner
Diamond Dress Shop
6011 Sunset B.
Lake C. 33497
(407) 632-4387

DATABASES AND COMPUTER COMMUNICATIONS **9-26**
WORK SHEET

NAME: ______________________________ PERIOD: ____________

CAREER AWARENESS DATABASE REPORTS

DIRECTIONS: When information has been stored into the **fields** of a database, that information can be **selected** and **sorted** to make different **reports.**

Two report designs are illustrated for you below. Using the **CAREER AWARENESS DATABASE** information, complete the reports by filling in the information.

Note: If a database program is available in the classroom, this activity can be completed on the computer.

REPORT I
List of Employers by classification

This report can be used by students, counselors and by Terry and Pat to determine the **types or classifications** of jobs available to students and how many prospective places of employment there are for each type of job.

CASHIER
1. ______________________________
2. ______________________________
3. ______________________________

FOOD SERVICE
1. ______________________________
2. ______________________________
3. ______________________________

SALES PERSON
1. ______________________________
2. ______________________________

STOCKMAN
1. ______________________________
2. ______________________________

REPORT II

List of Employers in alphabetical order by location

Transportation can be a problem, so some students need to find jobs that are close to their homes. This report tells the students what jobs are available in the town in which they live.

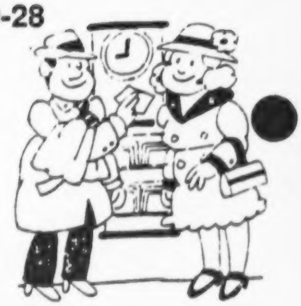
HOPETOWN, FL

1. ____
2. ____
3. ____
4. ____
5. ____

LAKE CITY, FL

1. ____
2. ____
3. ____
4. ____
5. ____

DATABASES AND COMPUTER COMMUNICATIONS 9-28
WORKSHEET:



NAME:________________ PERIOD:________________

CAREER AWARENESS EVALUATION FORM
PART III

Your supervisor has asked you to fill-in an **Evaluation Form** on Terry and Pat. **Circle the number** that best evaluates the data worksheet provided to you by Terry and Pat. You may want to look at the worksheets while you. fill out this form.

TERRY'S PERFORMANCE

	Poor	Fair	Average	Very Good	Superior
Information is accurate	1	2	3	4	5
Information is neat	1	2	3	4	5
Information is provided on time	1	2	3	4	5
Information is complete	1	2	3	4	5

PAT'S PERFORMANCE

	Poor	Fair	Average	Very Good	Superior
Information is accurate	1	2	3	4	5
Information is neat	1	2	3	4	5
Information is provided on time	1	2	3	4	5
Information is complete	1	2	3	4	5

DATABASES AND COMPUTER COMMUNICATIONS WORKSHEET

NAME:__________________ PERIOD:______

PRESIDENTS DATABASE

Databases are designed so that you can create and label "fields" which store information. All of the information typed into the database program can be stored in a "file". One major advantage of storing information in a database is that you can **sort** the information in the different fields.

This activity simulates a database file. The file is called PRESIDENTS. There are twelve (12) fields that provide some information about each one of the Presidents of the United States.

If this information were stored in a computer database, it would be very easily to answer the questions below. Without a computer to sort the information, you must **scan the file visually** to get the answers.

Directions: Using the INFORMATION FOR PRESIDENTS DATABASE as a reference guide, answer the following questions.

1. Print out a list of the names of the Presidents who were born in Ohio. (Hint: there are seven)

______________________________ ______________________________

______________________________ ______________________________

______________________________ ______________________________

____

2. Print out a list of the names of the Presidents who were 55 when they were inaugurated President of the United States of America. (Hint; there are four)

______________________________ ______________________________

______________________________ ______________________________

3. Print out a list of the names of the Presidents who were Quakers. (Hint: there were two)

______________________________ ______________________________

4. Print out a list of the Presidents who did not attend a college or university. (Hint: there were nine)

______________________________ ______________________________

______________________________ ______________________________

______________________________ ______________________________

______________________________ ______________________________

____

5. Print out a list of the Presidents who are still living. (Hint: there are four)

6. Print out a list of the Presidents who served without a Vice-President. (Hint: there are four)

   EXTRA CREDIT: Can you tell from the information in the database why these men did not have a Vice-President?

   [Note: It is no longer necessary for a President to serve without a Vice-President. Congress has now passed a law which establishes a procedure for selecting a new Vice-President when necessary.]

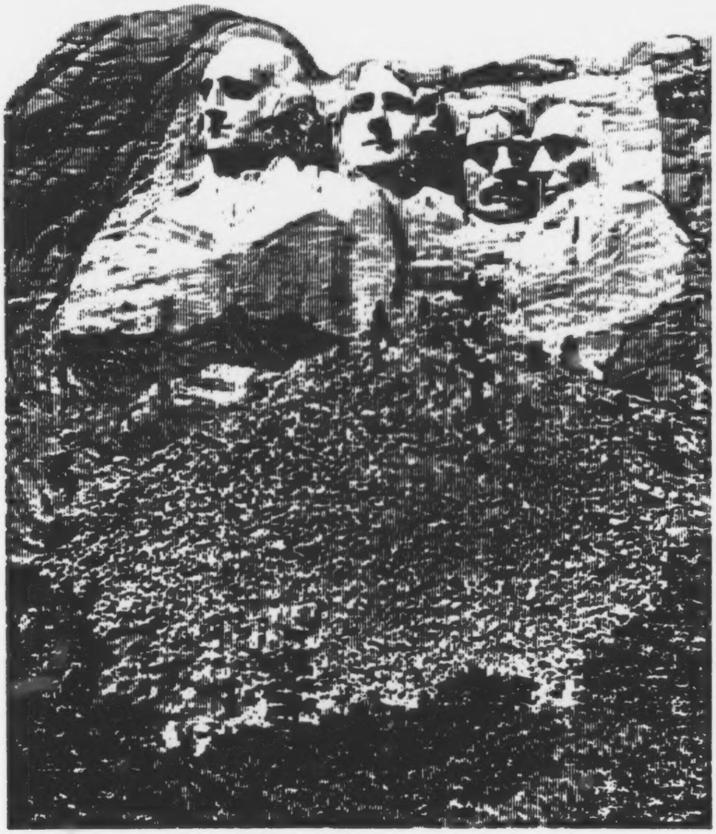
7. Print out a list of the Presidents born between 1800 and 1900. (Hint: there are twenty-one!)

8. Print out a list of the Presidents who were under the age of 50 when they were inaugurated. (Hint: there are six)

THESE QUESTIONS ARE HARDER. THEY REQUIRE YOU TO COMPARE TWO DATA FIELDS TO FIND YOUR ANSWER.

9. Print out a list of Presidents who are buried in a different state from the one in which they were born. (Hint: there are thirteen)

10. Print out a list of the Vice-Presidents who became President either because (a) the elected President died in office or (b) they ran for election during the next term. (Hint: There are nine)



DATABASES AND COMPUTER COMMUNICATIONS WORKSHEET

9-32

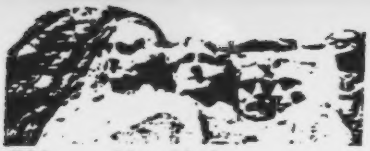
INFORMATION FOR PRESIDENT'S DATABASE

FORMAT (TEMPLATE) OF FILE INFORMATION:

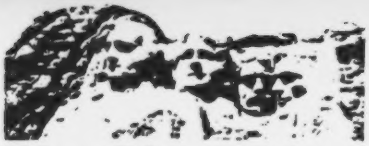
PRESIDENT	POLITICS	DOB	STATE OF BIRTH	
VICE PRESIDENT#	COLLEGE	RELIGION	YEAR SERVED	AGE+
DATE OF DEATH	BURIED	RANK		

*DATE OF BIRTH
+AGE WHEN INAUGURATED
#INDICATES ONLY THE FIRST VICE-PRESIDENT UNLESS A LATER VICE-PRESIDENT BECAME PRESIDENT.

George Washington	Federalist	2/22/1732	Virginia	57
John Adams	NA	Episcopalian	1789-17971	
12/14\1799	Virginia	1		
John Adams	Federalist	10/30/1735	Massachusetts	
Thomas Jefferson	Harvard	Unitarian	1797-1801	61
7/4/1826	Massachusetts	2		
Thomas Jefferson	Dem/Rep.	4/13/1743	Virginia	
Aaron Burr	William/Mary		Unitarian	1801-1809
	57			
7/4/1826	Virginia	3		
James Madison	Dem/Rep.	3/16/1751	Virginia	
George Clinton	Princeton	Episcopalian	1809-1817	57
6/28/1836	Virginia	4		
James Monroe	Dem/Rep.	4/28/1758	Virginia	
Daniel Tompkins	William/Mary		Episcopalian	1817-1825
	58			
7/4/1831	Virginia	5		
John Quincy Adams	Dem/Rep.	7/11/1767	Massachusetts	
John C. Calhoun	Harvard	Unitarian	1825-1829	
2/23/1848	Massachusetts	6		
Andrew Jackson	Democrat	3/15/1767	South Carolina	
John C. Calhoun		Presbyterian	1829-1837	61
6/8/1845	Tennessee	7		



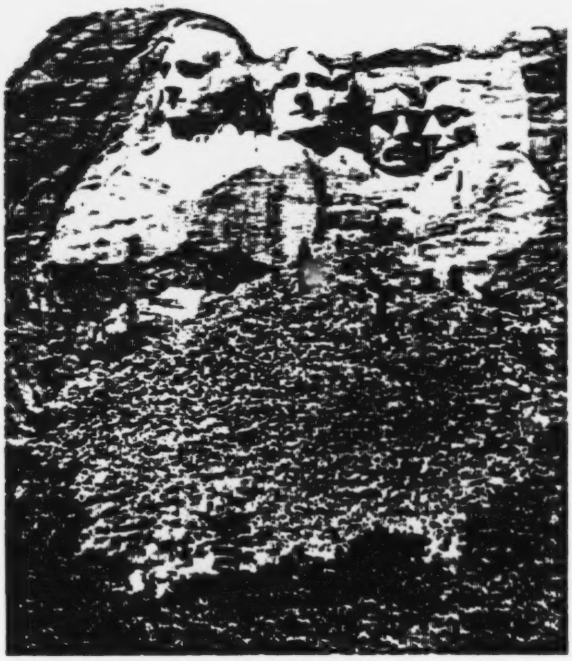
Martin Van Buren	Democrat	12/5/1782	New York	
Richard M. Johnson		Dutch Reform	1837-1841	54
7/24/1862	New York	8		
William H. Harrison	Whig	2/9/1773	Virginia	
John Tyler	Hampden-Sydney	Episcopalian		1841
4/4/1841	Ohio	9		
John Tyler	Whig	3/29/1790	Virginia	
	William/Mary		Episcopalian	1841-1845
	71			
1/18/1862	Virginia	10		
James K. Polk	Democrat	11/2/1795	North Carolina	
George M. Dallas	U. of NC	Methodist	1845-1849	49
6/15/1849	Tennessee	11		
Zachary Taylor	Whig	11/24/1784	Virginia	
Milliard Fillmore		Episcopalian	1849-1850	64
7/9/1850	Kentucky	12		
Millard Fillmore	Whig	1/7/1800	New York	
		Unitarian	1850-1853	50
3/8/1874	New York	13		
Franklin Pierce	Democrat	11/23/1804	New Hampshire	
William R. King	Bowdoin	Episcopalian	1853-1857	58
10/8/1869	New Hampshire		14	
James Buchanan	Democrat	4/23/1791	Pennsylvania	
John C. Breckinridge	Dickinson	Presbyterian	1857-1861	65
6/1/1865	Pennsylvania	15		
Abraham Lincoln	Republican	2/12/1809	Kentucky	
Hannibal Hamlin/A.JHohnson*		Presbyterian	1861-1865	52
4/15/1865	Illinois	16		
Andrew Johnson	National Union	12/29/1808	North Carolina	
		Methodist	1865-1869	66
7/31/1875	Tennessee	17		



Ulysses S. Grant	Republican	4/27/1822	Ohio	
Schuyler Colfax	Military Acad.	Methodist	1869-1877	46
7/23/1885	New York City	18		
Rutherford B. Hayes	Republican	10/4/1822	Ohio	
William A. Wheeler	Kenyon	Methodist	1877-1881	
1/17/1893	Ohio	19		
James A. Garfield	Republican	11/19/1831	Ohio	
Chester A. Arthur	Wiliams	Disckiples of Ch.1881		49
9/19/1881	Ohio	19		
Chester A. Arthur	Republican	10/5/1830	Vermont	
	Union	Episcopalian	1881-1885	50
11/18/1886	Ohio	21		
Grover Cleveland	Democrat	3/18\1837	New Jersey	
Thomas A. Hendricks		Presbyterian	1885-1889	47
6/24/1908	New Jersey	22		
Benjamin Harrison	Republican	8/20/1833	Ohio	
Levi P. Morton	Miami	Presbyterian	1889-1893	55
3/13/1901	Indiana	23		
Grover Cleveland	Democrat	3/18/1837	New Jersey	
Adalai E. Stevenson		Presbyterian	1893-1897	55
6/24/1908	New Jersey	24		
William McKinley	Republican	1/29/1843	Ohio	
Garret Hobart/T.Roosevelt*Allegheny Coll.			Methodist	1897-1901
	54			
9/14/1901	Ohio	25		
Theodore Roosevelt	Republican	10/27/1858	New York	
Charles Fairbanks	Harvard	Dutch Reform	1901-1909	42
1/6/1919	New York	26		
William H. Taft	Republican	9/15/1857	Ohio	
James S. Sherman	Yale	Unitarian	1909-1913	51
3/8/1930	Virginia	27		

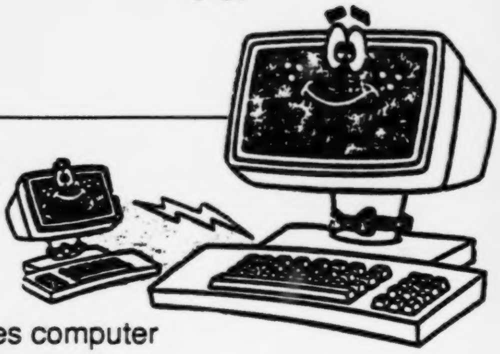
Woodrow Wilson	Democrat	12/29/1856	Virginia	
Thomas R. Marshall	Princeton	Presbyterian	1913-1921	56
2/3/1924	Washington DC		28	
Warren G. Harding	Republican	11/2/1865	Ohio	
Calvin Coolidge	Ohio Central	Baptist	1921-1923	55
8/2/1923	Ohio	29		
Calvin Coolidge	Republican	7/4/1872	Vermont	
Charles Dawes	Amherst	Congregational	1923-1929	51
1/5/1933	Vermont	30		
Herbert C. Hoover	Republican	8/10/1874	Iowa	
Charles Curtis	Stanford	Quaker	1929-1933	54
10/20/1964	Iowa	31		
Franklin D. Roosevelt	Democrat	1/30/1882	New York	
John N. Garner/H. Truman*	Harvard	Espiscopalina	1933-1945	51
4/12/1945	New York	32		
Harry S. Truman	Democrat	5\8/1884	Missouri	
Alben W. Barkley		Baptist	1945-1953	60
12/26/1972	Missouri	33		
Dwight D. Eisenhower	Republican	10/14/1890	Texas	
Richard M. Nixon	Military Acad.	Presbyterian	1953-1961	62
3/28/1969	Kansas	34		
John F. Kennedy	Democrat	5/29/1917	Massachusetts	
Lyndon B. Johnson	Harvard	Catholic	1961-1963	43
11/22/1963	Virginia	35		
Lyndon B. Johnson	Democrat	8/27/1808	Texas	
Hubert H. Humphrey	SW Tex.State	Christian	1963-1969	55
1/22/1973	Texas	36		
Richard M. Nixon	Republican	1/9/1913	California	
Spiro T. Agnew	Whittier	Quaker	1969-1974	56
		37		
Gerald R. Ford	Republican	7/14/1913	Nebraska	
Nelson Rockefeller	Yale		1974-77	61
		38		

Jimmy Carter	Democrat	10/1/1924	Georgia	
Walter Mondale	Naval Academy	Baptist	1977-1981	52
		39		
Ronald Regan	Republican	2/6/1911	Illinois	
George Bush	Eureka		1981-	73
		40		



DATABASES AND COMPUTER COMMUNICATIONS
STUDY SHEET

NAME:______________________________ PERIOD:______________



TELECOMMUNICATIONS

MATCH THE FOLLOWING

1.	modem -	A device that translates computer signals into telephone signals.
2.	acoustic coupler -	Portable modem connected to any telephone by placing the handset into a rubber cradle.
3.	electronic mail -	Remote, text-only communication from one computer to another computer through telephone lines.
4.	on-line -	Time during which two computers are sending and/or receiving information.
5.	information/service -	A collection of data banks available to computer users.
6.	upload -	Process of sending information to another computer.
7.	baud -	Refers to the speed at which messages are sent. Standard rates are 300 and 1200.
8.	buffer -	Storage compartment in the computer's memory which 'holds' information for later use.
9.	download -	Process of receiving information from a computer.

List three (3) educational applications of electronic networks.

____

____

____

What is the difference between a "user ID" and a "user password."

____

____

Name two (2) telecommunication data services used exclusively by educators.

____

____

Name two telecommunication data services available to businesses, educators and private individuals.

____

____

ELECTRONIC SPREADSHEET AND GRAPHIC PROGRAMS

INTENDED OUTCOME ADDRESSED IN THIS UNIT

The student will state the general use of an electronic spreadsheet.

The student will load the spreadsheet program and manipulate files.

The student will identify the characteristics of the spreadsheet display.

The student will be able to enter and edit data.

The student will be able to generate a spreadsheet file to the printer or the monitor.

The student will identify two kinds of computer graphics: graphing programs and drawing programs.

The student will create geometric shapes using computer graphics.

The student will use the printer to output graphic depictions.

INTRODUCTION

This packet contains teacher strategies, study sheets, sample tests and a self-help module for students to take home.

Included in this unit are Textbook Worksheets which are correlated by page and paragraph to the Scholastic Computing textbook. These worksheets have been used successfully with students who have poor reading and study skills. They provide a structured study guide to the information in the textbook. Scholastic Inc. has granted permission to copy these sections of the textbook.

VOCABULARY

budget
cell
columns
coordinates
cursor
drawing programs
electronic spreadsheet
forecast
formulas
function commands
graphics programs
graphics tablets
high resolution
integrated software
joysticks
label
low resolution
numbers (i.e. numeric)
peripheral
pixels
rows
scroll
stylus
test (i.e. words, alpha)
values

SUGGESTED TEACHING ACTIVITIES

Select appropriate classroom and take home activities needed to implement and reinforce the objective. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your school media specialist, from the Palm Beach County School Board Film Library or from your personal collection.

Describe the advantages of using a spreadsheet as opposed to pencil and paper and a calculator for a variety of financial, business, or mathematical problems.

If a **spreadsheet software program is available, demonstrate** (1) how to start up a spreadsheet program; (2) how to load a sample file; (3) how to save and revise a sample file; (4) how to print a spreadsheet file; and (5) how to exit the spreadsheet program.

Discuss **row and column notation** and the definition of a **spreadsheet cell.**

Demonstrate methods of **moving the active cell** to any location on the spreadsheet. Use Worksheets 10-13, 10-16 or 10-17.

Create a **spreadsheet template** based on sample "what if" situations. Use Worksheets 10-18 through 10-20 as one simulation of the function of a spreadsheet.

Develop a simulation of a **spreadsheet using the price of groceries.** Develop it as a unit on **nutrition** and good eating habits. For example, students can select food for one day of eating - three meals and set up a spreadsheet according to the four food groups. They can calculate the cost of the meal and its nutritional value.

Demonstrate the use of **PC crayon** to create a graphics on the screen. Print the finished product.

Demonstrate the use of **Logo to create geometric shapes** on the computer screen. Use the Logo primitives (commands) FD, BK, RT, LT.

Using **graph paper** create a picture by **coloring in the blocks (tiny cells).** Graph paper uses a horizontal and vertical axis. Make a listing of the blocks to be colored or lite up on the screen. These will have coordinates - Taken from the horizontal and vertical intersection Ex. (0,1) (14,12). Use the Worksheet on Page 10-11.

TEXTBOOK WORKSHEET

NAME: ______________________________ **PERIOD:** __________

CHAPTER 10

Directions: This worksheet accompanies Chapter 10 - Electronic Spreadsheets and Graphics Programs, in your textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Begin on **Page 176**

1. ...a ____________________ is like an ____________________ table. (Paragraph 5)

2. It is a special sheet of ____________________ that is divided into ________________ and ____________________. (Paragraph 5)

Page 177

3. In a way, using an ____________________ spreadsheet is like having a piece of paper, pencil, and a ______________________ all rolled into one. (Paragraph 4)

4. The very first electronic spreadsheet for microcomputers was called ___________________ ___________________ for "visible" and _______________ for "calculator". (Paragraph 5)

Page 178

5. The ___________________________ of an electronic spreadsheet is this: You only have to make ___________________ ____________________ in your spreadsheet. (Paragraph 4)

6. All of the other ___________________________________ that are affected by that change are _____________________ or recalculated ______________________. (Paragraph 4)

7. An electronic spreadsheet is like an electronic _________________ or ___________________. (Paragraph 7)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

8. The columns run ______________________ from ______________________ to ______________________ on your computer screen. (Paragraph 7)

9. Each column is ______________________ with a ______________________, beginning with "A". (Paragraph 7)

10. The ______________________ run ______________________ from ______________________ to ______________________ on your screen. (Paragraph 7)

11. Each row is ______________________. (Paragraph 7)

Page 179

12. Each ______________________ that is created by this ______________________ pattern of horizontal and vertical lines is called a ______________________. (Paragraph 2)

13. The ______________________ shows where the information you type of the keyboard will appear on the screen. (Paragraph 2)

14. The number of cells a spreadsheet has depends on the ______________________ you are using. (Paragraph 3)

15. ...you will not be able to ______________________ all of them on your monitor at the ______________________ time. (Paragraph 3)

16. What if you want additional ______________________ that are not shown on your screen. You can simply move or ______________________ the spreadsheet to the left or right by pressing the ______________________ or ______________________ -arrow key on your keyboard. (Paragraph 3)

17. You can send the cursor ______________________ to the cell you want by ______________ in a special ______________________. (Paragraph 4)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

18. The ________________ of a cell is identified by its ______________________. (Paragraph 5)

19. There are ________________________________ kinds of information that you can enter into the cells of a spreadsheet: ______________________, ___________________________, and ___________________________________. (Paragraph 6)

20. A formula can be any kind of _________________________ equation, such as an addition or multiplication problem. (Paragraph 6)

21. In a spreadsheet program, ______________________________ are called _______________; __________________________ and formulas are called __________________. (Paragraph 6)

Page 180

22. There are ____ commands that can help you use the program more easily. (Paragraph 6)

23. There are special commands,...for ______________________ your spreadsheet on a ______________________________ disk or for __________________ out your spreadsheet on paper. (Paragraph 6)

24. There are also commands for "________________________________ _____________" or "__________________________" your number entries into neat _______________________, and for _______________________ or "editing" your entries if you make a mistake. (Paragraph 6)

25. One group of commands are called ___________________________ commands. (Paragraph 7)

26. A function command tells the computer to perform some kind of ______________________ such as adding a series of numbers or finding the average of those numbers. (Paragraph 7)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

ANSWER THE **CHECKPOINT QUESTIONS** COVERING PAGES 176-180.
WORTH **EXTRA CREDIT** POINTS.

27. What makes an electronic spreadsheet more powerful than a paper spreadsheet?____
____

Pages 176- 180

28. How are columns and rows identified in an electronic spreadsheet?
____

29. What do you call each position or "box" in an electronic spreadsheet where information is entered?
____

Page 182

30. A ________________________ that helps you
________________________ what your earnings or saving will be
is called a ___________________________. (Paragraph 2
below title printed in center of page)

Page 183

31. After __________________ the program, you ________________
the ________________________ for each
________________________, and the ________________
of each ____________________________ on a different
______________. (Paragraph 2)

32. The plus sign (+)... tells the computer that you want to store a
______________________ or __________________.
(Paragraph 5)

33. ________________________________ the plus sign, the
computer would treat B3 as a __________________________
or ________________________ because it begins with the
letter "B". (Paragraph 5)

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

34. A ____________________ is a special ____________________ that is ____________________ into an electronic spreadsheet. (Paragraph 6)

35. It is used for ____________________ a mathematical problem such as calculating a ____________________ or finding the ____________________ of several numbers. (Paragraph 6)

Page 184

36. When you type in a function command in a particular ____________________, it appears in the special information ____________________ at the ____________________ of your spreadsheet. (Paragraph 3)

37. After you press the ____________________ key, the result of the formula appears in the cell where your ____________________ is. (Paragraph 3)

38. By ____________________ many different possibilities, you could make better ____________________ about running your business. (Paragraph 5)

ANSWER THE **CHECKPOINT QUESTIONS** THAT COVER PAGES 182-184.
WORTH **EXTRA CREDIT** POINTS.

39. What do you call a plan that helps you predict what you will earn or save in the future?

____

40. What is the name of a command that tells the computer to perform a certain calculation?

____

41. What symbol is used to tell the computer you want to perform a certain calculation?

____

This worksheet accompanies the textbook Scholastic Computing, written by Jack L. Roberts and published by Scholastic Inc. in 1984.

SAMPLE TEST

NAME:____________________ PERIOD:____________________

WHAT ARE THE GRADE AVERAGES

NOTE: You can do this activity using an electronic spreadsheet software program or you can 'simulate' the functions of an electronic spreadsheet by using the chart on Page 10-10.

1. Complete a spreadsheet by using the information below. LOCATE the "cell" and WRITE the information provided.

LOCATE	WRITE	LOCATE	WRITE
A1	Name	A3	Carson
D1	TEST	B3	John
D2	1	A4	Fox
E1	TEST	B4	Michael
E2	2	A5	Brown
F1	TEST	B5	Henry
F2	3	A6	Rogers
G1	FINAL	B6	Mary
G2	AVERAGE		

2. Now enter the following data into the correct cells of your spreadsheet.

	TEST 1	TEST 2	TEST 3	FINAL AVERAGE
John Carson	93	100	87	_______
Michael Fox	75	84	88	_______
Henry Brown	99	99	100	_______
Mary Rogers	94	89	95	_______

3. Fill in the average for each student. (Hint: Add the three grades across, then divide that answer by 3).

4. Look at the spreadsheet "template" and answer questions 1 to 5.

   1) The information of one student is found in a

      a. Row　　　b. Column

   2) The information on one test is found in a

      a. Row　　　b. Column

   3) The name John Carson is found in which cells? ______________

   4) The label Test 2 is found in which cells? _________________

   5) The grade 88 is found in which cell? _____________________

5. Name three uses of an electronic spreadsheet.

   ____

   ____

   ____

SAMPLE WORKSHEET

WHAT ARE THE GRADE AVERAGES

NAME: ____________________ PERIOD: ________________

	A	B	C	D	E	F	G	H	I
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									

STUDY GUIDE

Select Study Sheets and Worksheets from the Study Guide section to provide students with take-home material to reinforce skills learned in class.

Reproduce only those materials that relate to the needs and ability level of the student. Use the Sample Tests to ensure student mastery of the objectives.

ELECTRONIC SPREADSHEETS AND GRAPHICS PROGRAMS 10-11
STUDY SHEET

NAME:____________________ PERIOD:____________________

ELECTRONIC SPREADSHEET

BACKGROUND INFORMATION:

An Electronic Spreadsheet is a software package that combines the convenience and familiarity of a pocket calculator, a pencil, and a sheet of paper with the memory and electronic screen capabilities of a personal computer.

The Electronic Spreadsheet is organized as a grid of **columns** and **rows,** whose intersecting lines define entry positions. At each position, or **cell,** you can enter a title, number, or formula to be calculated. Using a spreadsheet you can set up your own charts, tables and records.

Electronic Spreadsheets are normally used as tools to calculate sales projections, income tax, a personal or business budget, checkbook balancing, etc.

Spreadsheets give you the capability of entering **alpha** (word, letters) and **numeric** (dates, numbers, money) data on the computer and updating the data by **retyping only the information that needs to be changed.** Using a spreadsheet, you will NEVER again have to retype the entire master list. The computer and spreadsheet program will absorb your changes in data and refigure or resort the information as you direct it.

Spreadsheets are a pretty nifty use of computers, especially when you deal with a lot of data that needs to be sorted, totaled and refigured. Some cautions and concerns about using electronic spreadsheets include:

1. BEFORE you start at the computer, have a general idea of what data you need and how you need to use it.

2. Collect your data on an entry worksheet to help you organize your information before you enter it into the computer program.

3. REMEMBER, the initial data entry time is LONG. You NEVER save time on initial data entry. You do save time when you update only the information that has changed.

   Initial data entry is when many people get frustrated and ask, "What good are computers? I can do this as easily by hand!" It is when you sort the information for reporting purposes, and when you update the information because the data has changed that the real time saving factors of electronic spreadsheets become evident.

ELECTRONIC SPREADSHEETS AND GRAPHICS PROGRAMS **10-12**
STUDY SHEET:

NAME:____________________ PERIOD:____________________

SPREADSHEET DEFINITIONS

Words you need to know:

cell	A cell is the intersection of each row and column. The cells are always labeled with the letter first and the number next.
cell cursor	The cell cursor is a highlighted box that covers the whole cell. The bottom of the screen always tells you: 1. Which cell you are on. 2. What is in the cell.
column	Columns are labeled with letters of the alphabet. They run up and down the page or 'vertically'.
cursor	The blinking light that shows the cell that has been activated.
fields	categories
moving the cursor	The arrow keys will move the cursor around the screen.
row	Rows on a spreadsheet are labelded with numbers. The data lines run left to right.
spreadsheet	A sheet (paper or on computer screen) that has rows or columns on which you arrange labels and numbers for computations.
windows	A capability built into some computer software spreadsheet programs where formatting and style options are accessed by insert menus.

There are three things that can be put into cells

Labels	A label is a word typed into the cell that tells what type of information is in the row or column. If the word is too big to fit into the cell, it moves over to occupy the next cell too.
Value	A value is a number placed into the cell. The number can be used in computations.
Formula	A formula is a mathematical sentence that the computer will perform. Example 5 + 6 = 11. The formula we use will tell the computer to add the numbers in certain cells. Example: A1 + A2

ELECTRONIC SPREADSHEETS AND GRAPHICS PROGRAMS 10-13
WORKSHEET

NAME:____________________ PERIOD:____________________

Directions: Fill in the blanks with the correct word from the list below.

cell
cursor
column
fields
row

1. The data lines that run up and down the page are. ______________

2. The data lines that run left to right are?______________________

3. A ______________ is the location found by row and column intersection.

4. The blinking light that shows the cell that is active is the?______

5. The categories of information in a spreadsheet are called?_______

6. Using the sample spreadsheet on Page 10-14, color in the following cells in the correct rows and columns.

B5
D5
F5
B6
D6
F6
B7
D7
F7
B8
D8
B9
D9
F9
B10
D10
B11
D11
F11
C8
F8

What design appears on the spreadsheet? ________________________

ELECTRONIC SPREADSHEET WORKSHEET

10-14

NAME ______________________ **PERIOD:** ______________________

	A	B	C	D	E	F
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						

ELECTRONIC SPREADSHEETS AND GRAPHICS PROGRAMS 10-15
WORKSHEET

NAME:____________________ PERIOD:____________________

LOGO "Turtle Graphics"

DIRECTIONS:

Draw the geometric figure created by each Logo procedure.

On the line underneath the procedure, write down the name of the geometric figure the program creates.

```
FD  60
RT  90
FD  60
RT  90
FD  60
RT  90
FD  60
RT  90
```

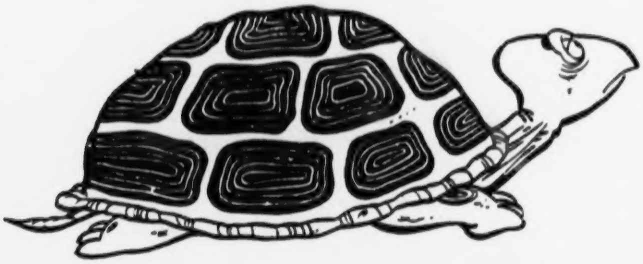
____

```
FD  30
RT  90
FD  60
RT  90
FD  30
RT  90
FD  60
RT  90
```

____

```
FD  40
RT  120
FD  40
RT  120
FD  40
RT  120
```

____



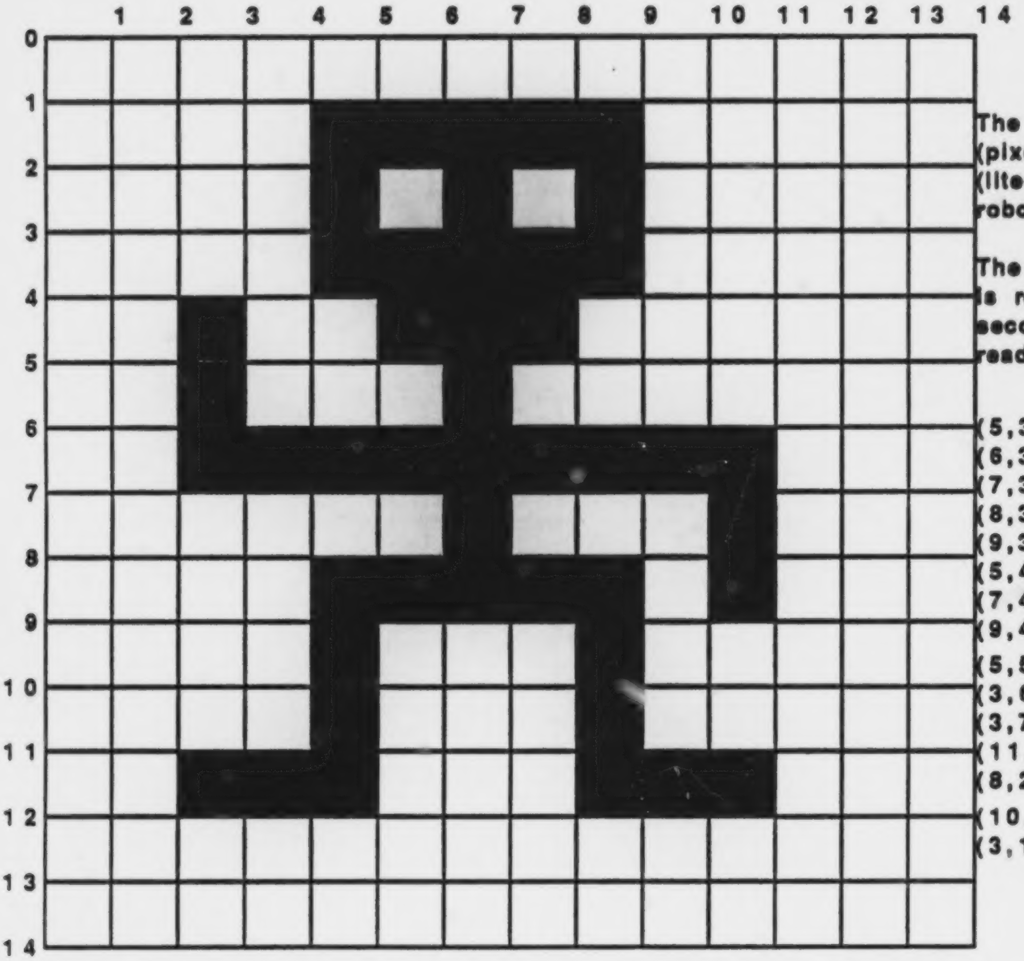
```
FD  20
RT  60
FD  20
RT  60
FD  20
RT  60
FD  20
RT  60
FD  20
RT  60
FD  20
RT  60
```

____

ELECTRONIC SPREADSHEETS AND GRAPHICS PROGRAMS 10-16
WORK SHEET

Lite Up the Pixels

NAME: ______________________ **PERIOD:** __________________


1 2 3 4 5 6 7 8 9 10 11 12 13 14
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

The following squares (pixels) were colored (lite-up) to create a robot.

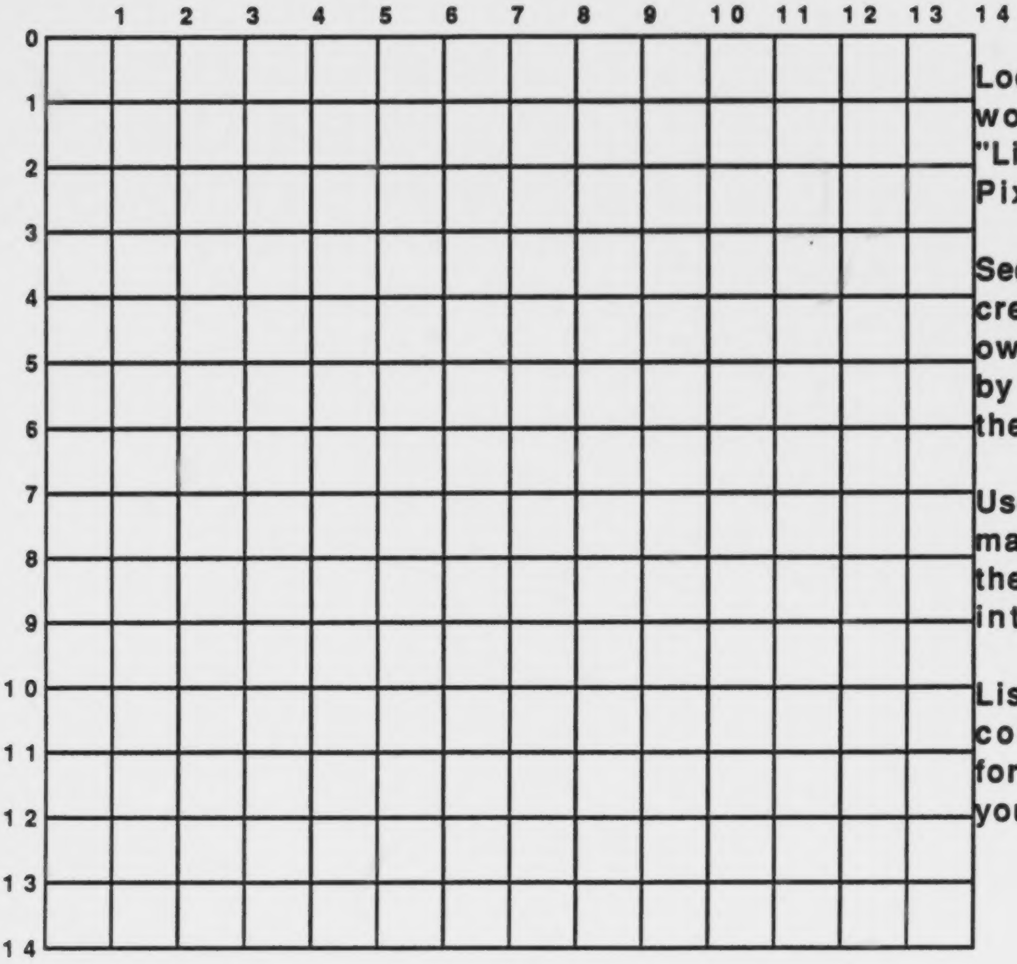
The first coordinate is read over. The second coordinate is read down.

(5,3)(6,5)(6,8)(9,10)
(6,3)(7,5)(7,8)(5,11)
(7,3)(8,5)(8,8)(9,11)
(8,3)(9,5)(9,8)(5,12)
(9,3)(6,6)(7,9)(9,12)
(5,4)(7,6)(5,10)
(7,4)(8,6)(6,10)
(9,4)(7,7)(7,10)
(5,5)(5,8)(8,10)
(3,6)(4,8)(11,9)
(3,7)(10,8)(11,10)
(11,13)(6,2)(11,8)
(8,2)(3,8)(7,2)
(10,13)(6,13)(5,13)
(3,13)(9,13)

ELECTRONIC SPREADSHEETS AND GRAPHICS PROGRAMS **10-17**
WORK SHEET

Lite Up the Pixels

NAME: ______________________ PERIOD: ________________


1 2 3 4 5 6 7 8 9 10 11 12 13 14
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

Look at the worksheet "Lite Up the Pixels".

See if you can create your own graphic by coloring in the squares.

Use colored markers to make the picture more interesting.

List the co-ordinates for the pixels you light up.

co-ordinates

____

____

____

____

____

____

____

ELECTRONIC SPREADSHEETS AND GRAPHICS PROGRAMS 10-18
SAMPLE WORKSHEET

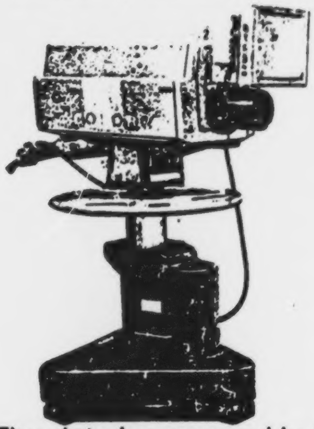
NAME:____________________ PERIOD:____________________

LET'S GO TO THE MOVIES

DIRECTIONS: Create the spreadsheets on a blank template by LOCATING the cell and WRITING in the word. Use Worksheet 10-20 to fill in your answers.

1. Fill in the labels for the templates by locating the cell and writing the word:

LOCATE	WRITE
A3	Student
C3	Sept.
D3	Oct.
E3	Nov.
F3	Dec.
G3	Total



2. Enter the following data. The data is arranged in five groups below. The first column in each group is labeled LOCATE or LOC. The tells you the "cell" in which to put the information labeled WRITE or WR in the second column.

LOCATE	WRITE	LOC.	WR.	LOC.	WR.	LOC.	WR.	LOC.	WR.
A5	Alicia	C5	3	D5	2	E5	2	F5	3
A6	Billy	C6	4	D6	1	E6	3	F6	2
A7	David	C7	2	D7	5	E7	6	F7	2
A8	Frances	C8	2	D8	4	E8	2	F8	3
A9	Howard	C9	4	D9	5	E9	3	F9	2
A10	Jason	C10	1	D10	2	E10	2	F10	2
A11	Karen	C11	2	D11	3	E11	2	F11	2
A12	Mark	C12	3	D12	3	E12	3	F12	2
A13	Total								

3. Find the total number of movies seen by each student by adding across the row.

EXTRA CREDIT (Questions 4-7) Be sure to continue to Question 8 and answer the 10 questions about spreadsheets.

4. Change the number of movies seen in Oct. by Billy to 4, then recalculate his total.

5. Fill in the rest of the spreadsheet. The total number of movies seen by the whole group for the four months should be 100.

6. Find the average number of movies seen for the month of September.

   What formula would you type into the computer so that it could calculate the answer to this question? (Hint: Add the numbers for all students for that month, then divide by the number of students.)

7. After checking the formula with the teacher, put the formula in cell C13.

8. Answer the following questions about the spreadsheet.

(1) The information on one month's movies is found in a:

a. Row b. Column

(2) The information on one month's movies is found in:

a. Row b. Column

(3) David's name is in what cell?__________________

(4) The label Oct. is in what cell?__________________

(5) The value 6 is in what cell?__________________

(6) What does the information in the **row** labeled Total tell?______
____

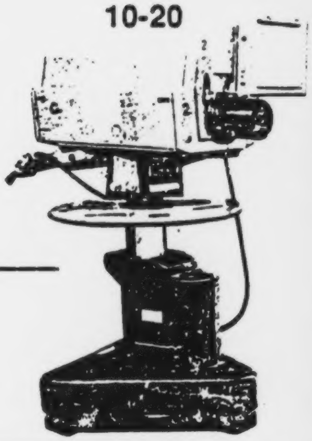
(7) What does the information in the **column** labeled total tell?____
____

(8) How many more movies does Jason have to see so that his total is 11? ______________________________________

(9) How many movies does Frances have to see to make her total more than 15? ______________________________________

(10) How many movies does Karen need to see in Dec. to make her month's total equal to the month of Oct.?____________________

ELECTRONIC SPREADSHEET AND GRAPHIC PROGRAMS 10-20
SAMPLE WORKSHEET



LET'S GO TO THE MOVIES

NAME: ______________________ PERIOD: __________

	A	B	C	D	E	F	G	H	I
1				NUMBER OF MOVIES SEEN					
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									

INTENDED OUTCOME ADDRESSED IN THIS UNIT:

The student will identify at least three (3) effects that computerization has on our daily lives.

The student will identify an example of a computer application in the following areas:

(1) education;
(2) health and medicine;
(3) libraries;
(4) the creative arts;
(5) working with the handicapped population; and
(6) law enforcement.

INTRODUCTION

This packet contains teacher strategies, study sheets, sample tests, and a self-help module for student to take home.

Much of the information in this chapter was covered previously in earlier chapters. You may wish to use this chapter as a review or select specific pages or sections to cover with the students.

VOCABULARY

bar
Computer Assisted Instruction (CAI)
Computer Assisted Tomography (CAT)
Electronic Messaging Service (EMS)
LEXIS
Medical Literature Analysis & Retrieval System (MEDLARS)
National Crime Information Center (NCIC)
speech synthesis
videotex
Viewdata
voice synthesis

SUGGESTED TEACHING STRATEGIES

Select appropriate classroom and take home activities needed to implement and reinforce the objectives. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your school media specialist, from the Palm Beach County School Board Film Library or from your personal collection.

Discuss the fact that the ways that computers touch our lives are expanding daily. Include both the **positive and the negative effects.**

Interview an adult about the **changes computerization** has brought about in their lives over their lifetime.

Show the SVE sound/filmstrip Impact of Computers available at FDLRS/Alpha for preview.

Find **pictures** that show **ways we use computers** every day.

Keep a **list for a week of activities** that you or your family do that **involve computers.** (Remember to include bank tellers, grocery check outs, microwave ovens, VCRs, etc.).

Invite **computer users to visit your classroom** and share their knowledge with your class. Jobs that often involve computers include: accountants, architect, banker, bookkeeper, librarian, educator, medical technician, lawyer, police investigator, travel agent, ticket sales for concerts.

THE BENEFITS OF COMPUTERS **11-3**
SAMPLE TEST

NAME:__________________ PERIOD:__________________

What Can You Do With A Computer?

Below are some tasks that can be done with a computer. Match each task to the area of use.

For example: "Counting books" is a task done in libraries. So the letter "A" has been placed in the Libraries column.

A. Count books.
B. Maintain student attendance records.
C. Produce a possible diagnosis.
D. Give students information about colleges.
E Create sounds of different instruments.
F. Allow blind people to write letters.
G Store information on various diseases or illnesses.
H Use computer produced speech to communicate.
I. Check the license number of a car.
J. Store information about stolen property and missing persons.
K. Analysis great works of literature.
L. Find books on a particular subject.

Education ______ ______

Law Enforcement ______ ______

Creative Arts ______ ______

Health & Medicine ______ ______

Work with Handicapped ______ ______

Libraries ___A___ ______

STUDY GUIDE

Select Study Sheets and Worksheets from the Study Guide section to provide students with take-home material to reinforce skills learned in class.

Reproduce only those materials that relate to the needs and ability level of the student. Use the Sample Tests to ensure student mastery of the objectives.

THE BENEFITS OF COMPUTERS WORKSHEET **11-4**

NAME:__________________ PERIOD:__________________

How much do computers help you each day?

DIRECTIONS: Put a check in the box that is **true for you.**

[ ] I have seen the teller at the bank use a computer.

[ ] I have asked the telephone operator to locate a friend's number and a computer was used to help me.

[ ] I play video games which are controlled by computers.

[ ] I listen to the weather report on TV for which computers help to make weather predictions.

[ ] I use electricity to play my stereo which is controlled by the electric company's computers.

[ ] I have flown in an airplane which has been set on automatic pilot.

[ ] I have stopped at a traffic light.

[ ] I have been stopped by a passing train and seen the cross guard lowered.

[ ] I have cooked with a microwave oven.

[ ] I have talked to a relative or friend long-distance.

THE BENEFITS OF COMPUTERS WORKSHEET

11-5

NAME:____________ PERIOD:____________

WHAT CAN YOU DO WITH A COMPUTER?

Below are some tasks that can be done with a computer. Match each task to the area that might need the computer to do that task. Some tasks may be under more than one area.

Keep attendance records
List names and addresses
Read prices
Keep track of bank accounts
Write letters
Print paychecks
Figure grades
Store information on crimes
Store information on diseases
Keep track of your taxes
Take inventory
Bill customers
Measure how much you weight
Control traffic lights
Compare your symptoms with those of others
Figure how many miles you have driven
Create sounds of different instruments

Home or Personal Use:

Education:

Business:

Medicine:

Creative Arts:

Law Enforcement:

THE BENEFITS OF COMPUTERS WORKSHEET

11-6

NAME:____________________ PERIOD:____________________

EVERYDAY COMPUTERS

Think of different ways that the computer can be useful in the following career areas. List at least two for each area.

AREA **USES**

Creative Arts ____

____

Libraries ____

____

____

____

Work with Handicapped ____

____

____

Business ____

____

Education ____

____

Medicine ____

____

INTENDED OUTCOME ADDRESSED IN THIS UNIT

The student will recognize the fact that laws affect the use, access, and distribution of electronic information.

The student will distinguish between legal and illegal duplication of software and published materials.

The student will identify legal ramifications/consequences of computer crime.

INTRODUCTION

This packet contains teacher strategies study sheets, sample tests and a self-help module for students to take home.

VOCABULARY

access code
backup copy
copy-protected
copyright notice
credit history
cryptography
data bank
ethics
Fair Credit Report Act
felony
Freedom of Information Act
misdemeanor
public domain software
theft of information
theft of money
unethical

SUGGESTED TEACHING STRATEGIES

Select appropriate classroom and take home activities needed to implement and reinforce the objectives. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your school media specialist, from the Palm Beach County School Board Film Library or from your personal collection.

Begin a class discussion on the **topic of crime**. Ask students to define crime. Ask if a student has ever seen a crime. Tell students that there is a relatively new form of crime known as "computer crime." List some of the types of "computer crimes," (e.g., illegal copying of software, "breaking into" a computer data file with telecommunications.

Ask students if they have seen a **movie or TV show** similar to War Games. Discuss the various violations and "computer crimes."

Show and discuss the Walt Disney sound/filmstrips Pirates and Hackers (available at FDLRS/Alpha for preview).

Discuss the fact that the **copyright law** is a notice that tells who has the right to reproduce and sell the copyright materials. Include the fact that the copyright law is important to writers because it protects them from losing their rightful profits derived from the sale of their materials.

Discusss the concept of **privacy.** Discuss the **Freedom of Information Act** that makes information in federal computer systems available to the public and the **Privacy Act** that gives people the right to see information kept by the government about them. Tell how these laws protect the public. Include a discussion of agencies, public and private, that need information about people.

Invite the **school media Specialist** to class to discuss the laws affecting software and copyright.

Some people believe that it is unlawful to **enter a computer system without permission.** Write a paragraph giving your opinion on this idea.

Compare the terms **copyright and patent.** Make a list of things that have copyrights and things that have a patent license (e.g., copyright - books, movies, videos, records; patent - ball point pens, appliances, TV).

Have students bring in samples of **copyright or patent statements** from things they have bought.

Find the **state and local laws** concerning computer use. Report on: (a) what forms of computer misuse and illegal and (b) what the penalities are for the illegal use of a computer.

Discuss in general terms the **economic effect of copyright violations.** Relate this discussion to videos, cassette tapes and software, (consider that you are an author of a famous software game). You are looking forward to your **royalty** check when your publisher calls and says everyone is **pirating** the program and there are no **profits.** How do you feel?

Read the **copyright agreement on a commercial software package.** Summarize its content using your own words.

Discuss how you can **get software legally** (e.g., buy, check-out from a library, lease it, etc.).

Discuss how copyright laws are **most often violated** (making illegal copies).

List examples of materials that are **copyright protected.**

Tell students that **some of the copyrighted software may "crash"** if they try to copy the diskette. Explain the word **CRASH** (i.e., program will be automatically erased so the software will not work).

Define and discuss each **vocabulary** word (law, stealing, illegal, public domain, legal, copyright).

Explain **how public domain software differs from copyrighted software.**

a. Define the word "duplicate" as: to make an exact copy of.
b. Define the word "legal" as: permitted by law.
c. Define the word "copyright" as: the exclusive right granted by law for a certain term of years to make and dispose of, and otherwise to control copies of, a literary, musical, or artistic work, or computer programs.

Discuss with the students the **legal ways of duplicating software.**

a. They must be the owner of the program.
b. Maintaining copy for archival purposes (valuabe records).
c. Copies made cannot be leased, sold, or otherwise transferred.

Discuss with the students the importance of **not duplicating software illegally** and the consequences that might occur.

a. The essential aspect of copyright is to restrict copying of a copyrighted program, the right involved, right to reproduce, adaptation, and distribution.
b. The owner of the copyright is the only person who has the right to copy the program, to create another program based on the copyrighted program, distribute or to copies by means of sale, lease, or rental.
c. The use of a program to make copies for another's use is clearly illegal.
d. The consequences are:
   (1) Fines of $5,000 to $250,000 per infraction (each copy).
   (2) 3 to 5 years in prison.

How do computer **crimes hurt us as individuals**? (Price of software goes up, loss of privacy, etc.)

List **types of computer crimes** and give examples.

Discuss **ways people misuse computers:**

a. Financial fraud: using computers to steal money from a company or its customers.
b. Information theft: (1) stealing information from a data base or (2) copying and selling software protected by law (pirating).
c. Unauthorized use of computers.
d. Vandalism or the destruction of computer equipment and data.

Discuss **methods being used to discover and prevent computer crime:** (a) tighter security procedures; (b) periodic checks on employees and data they work with; (c) stricter laws governing comptuer crimes; (d) audit-teams trained to spot any misuse of computers; and (e) check of past history of new employees.

Discuss or write a paragraph about **these situations:**

> You drive to a drive-in bank to make a deposit. The teller accidentally gives you too much money. Is it a crime to keep the money? What will happen to the teller when his/her drawer doesn't balance?
>
> A student uses telecommunications and her home computer to break into the school computer to look at her grades, but does not change them. Is this a crime?

NAME: ______________________ **PERIOD:** __________

OK or Not OK?

Read each statement and tell if you think the way the computer is being used is OK or **Not OK**.

1. Sarah types a report for her class assignment.

   OK **Not OK**

2. Cindi copies a program that her friend Sam bought and loaned to her.

   OK **Not OK**

3. Bill gives Lynnette a copy of a program he has written.

   OK **Not OK**

4. Gary uses his father's bank card without his father's permission to take money from his father's account.

   OK **Not OK**

5. Bob takes Pat's data disk, prints out a report she has written, puts his name on it and gives it to his teacher.

   OK **Not OK**

6. Marty tries to find out information about Diana's grades when the teacher is not near the computer.

   OK **Not OK**

7. Harry uses the computer in the media center to find information he needs for a report.

   OK **Not OK**

8. Sharon and Basil use the computer program their teacher has given them to review for a test.

   OK **Not OK**

Instructional Materials for Computer Literacy courtesy of the UCF/DOE Instructional Computing Resource Center, Copyright 1987.

STUDY GUIDE

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STUDYSHEET

NAME:________________ PERIOD:________________

COMPUTER ETHICS VOCABULARY

access code	Secret password used to gain access to information files.
backup	A legal copy of a computer program to be used if the original fails to work.
computer theft	Using computers to steal money from a company or its customers.
copyright notice	A statement that tells who owns and has the right to copy or sell a computer program.
copy protected	Software specially coded to prevent the buyer from making illegal copies.
ethics	A moral question of what is right or wrong.
felony	A serious crime punishable by a year or more in prison. Some cases of computer misuse are criminal offenses.
information theft	Stealing information from a data base or copying and selling software protected by law (pirating).
misdemeanor	A less serious offense punishable by a fine or jail term of less than a year.
public domain	Computer programs legally available to the public at no cost.

COMPUTER CRIME AND ABUSE
WORK SHEET

NAME:____________________ PERIOD:____________________

COPY RIGHT

"Do your own work." "Keep your eyes on your own paper."
"Do not copy out of the book."

Why does your teacher make statements like the three samples above?

____

____

____

____

What does your teacher do when someone cheats or turns in work that isn't his?

____

____

____

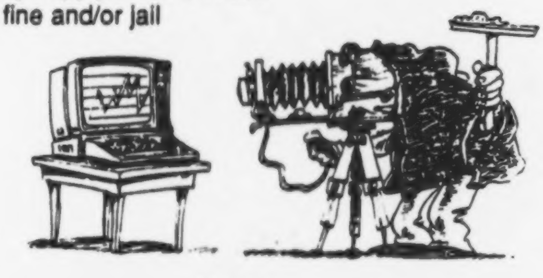
____

Just as your teacher protects the work you and other people do, Congress passed the **Software Copyright Act of 1980.** This law protects software developers from having their work stolen or copied illegally.

_____ How many copies may you make of a copyrighted disk you bought?
  a) one
  b) two
  c) as many as you like

_____ If you sell or give away a disk, what should you do with your backup disk?
  a) keep it
  b) give it to someone
  c) destroy it

_____ What are the penalities if you are caught with an illegal copy of a copyrighted disk?
  a) $10 fine for evey copy you have made
  b) up to $50,000 fine and/or jail
  c) none



COMPUTER CRIME AND ABUSE **12-7**
WORKSHEET

NAME:____________________ PERIOD:____________________

CHECK YOUR KNOWLEDGE OF COMPUTER ETHICS

Write True of False in front of each of the following statements.

1. ____________ You can make as many copies of public domain software as you want.

2. ____________ If a program is too expensive, you would get a copy from a friend.

3. ____________ Violation of the United States Copyright Law is a federal offense.

4. ____________ If I am absent from school, it's all right for other students to help themselves to my data diskettes.

5. ____________ If you know someone's password for a bank Automatic Teller Machine, you should use it when you need some money.

6. ____________ If I write an educational computer game, I can give copies of it to all of my friends.

7. ____________ Illegal copying of computer games is stealing.

8. ____________ I have the right to make as many copies of a program as I want because I paid for it.

9. ____________ If a software program is copyrighted, I am allowed to copy it as long as I erase the copyright notice first.

10. ____________ Using a computer to find out information about other people from a data bank is fine as long as I don't change anything.

COMPUTERS CRIME AND ABUSE 12-8
WORKSHEET

NAME:________________ PERIOD:________________

LEGAL or NOT?

Tell whether you think the people in each example below are duplicating and distributing software legally or illegally. Circle your answer.

Legal Illegal 1. Barbara bought a new program. She makes a back-up disk as the manual tells her.

Legal Illegal 2. Sid buys a copyrighted disk. He makes a copy and sells it to Sam.

Legal Illegal 3. Helen finds a copyrighted program and makes a copy for herself.

Legal Illegal 4. Bessie writes a program. She gives copies to all of her friends.

Legal Illegal 5. Marvin goes to the media center and checks out a copyrighted program. He makes ten copies and sells them.

Legal Illegal 6. Ken makes a copy of his data disk for his own use in case the original is destroyed.

Legal Illegal 7. Glen copies a program that is in the public domain and gives it to Jerry.

Legal Illegal 8. Elaine sells a program which a friend has written to a software company.

Legal Illegal 9. Jerry copies a classmate's program without his permission.

Legal Illegal 10. Minnie copies all the public domain programs in her school to use at home.

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NAME: ______________________________ PERIOD: __________

Copyright Court: A Mini-Drama

Read or act out the following scenes. Take turns playing roles. The whole class can be the jury. Mark your verdict for each case on the jury sheet at the end of this script.

Case #1

Baliff:	Copyright court is now in session. All defendants are reminded they have sworn to tell the truth, the whole truth, and nothing but the truth. The court calls Joe Jones.

Joe steps forward.

Judge:	You are charged with the illegal copying of a copyrighted program. How do you plead?
Joe:	Not guilty, your honor.
Judge:	Please explain.
Joe:	My friend Robert let me ride his go-cart in exchange for a copy of Peanuts Picture Puzzles. He doesn't let many people ride his go-cart. So I was just returning a favor. I didn't hurt anyone.
Judge:	Thank you. Please be seated. Members of the jury, please decide if you believe Joe Jones is guilty or not guilty. Mark your answer on the jury sheet next to case #1.

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NAME: ____________________ **PERIOD:** __________

Copyright Court

Case #2

Baliff:	The court calls Susan Schreiner.

Susan steps forward.

Judge:	Susan, you are charged with the illegal copying of software. How do you plead?
Susan:	Not guilty, your honor.
Judge:	Please explain.
Susan:	I recently bought a copy of Print Shop. I know diskettes can be easily damaged so I made a back-up copy to be used in case something did happen to my new program. I even brought a copy of the user documentation that says you can make one back-up copy.

Baliff takes the documentation from Susan and gives it to the judge.

Judge:	Did you make more than one copy?
Susan:	No, your honor, just one back-up copy.
Judge:	Thank you. Please be seated. Members of the jury, is Susan guilty or not guilty? Please mark your jury sheets next to case #2.

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COMPUTER CRIME AND ABUSE 12-11
WORKSHEET

NAME: ______________________________ PERIOD: __________

Copyright Court

Case #3

Baliff: The court calls Mrs. Lewis.

Mrs. Lewis comes forward.

Judge: You are charged with the illegal duplication of copyrighted software. Are you responsible for the 374 duplicate copies of Atlas Corporation programs that were found stored at a location other than the Atlas Corporation offices?

Mrs. Lewis: Yes, your honor. I am the software librarian for the Atlas Corporation.

Judge: How do you plead?

Mrs. Lewis: Not guilty.

Judge: How do you explain the 374 duplicate programs found in the warehouse downtown at Elm Street?

Mrs. Lewis: Well, your honor, as software librarian it is my responsibility to keep track of all company software. Part of this job includes creating and storing back-up copies in a safe location so that if there is a fire, a theft, or some other disaster the company will not lose important data.

Judge: Thank you. You may be seated. Members of the jury, make your decision and mark your verdict on the jury sheet next to case #3.

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NAME: ______________________ PERIOD: __________

Copyright Court

Case #4

Baliff: The court calls Max Lead.

Max comes forward.

Judge: Max Lead, you are charged with the illegal duplication of copyrighted software. How do you plead?

Max: Hey, man, I didn't do anything.

Judge: Please answer "guilty" or "not guilty."

Max: Like I said man, not guilty.

Judge: In this court you will refer to the judge as "your honor" or you will be held in contempt of court.

Max: Okay, man. I mean, "Your Honor."

Judge: Now explain why you feel you are not guilty.

Max: Okay. I bought this here game program. I mean, I paid cash for it. It's mine. I needed a little cash, so I made some copies and sold them. Just a few.

Judge: Thank you. Please be seated. Members of the jury, mark your jury sheet for case #4.

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NAME: ______________________________ **PERIOD:** __________

Copyright Court

Case #5

Baliff:	The court calls Mitch Morgan.

Mitch comes forward.

Judge:	Mitch Morgan, you are charged with the illegal duplication of software. How do you plead?
Mitch:	Not guilty. I am innocent of all charges.
Judge:	Tell me why you think you are innocent.
Mitch:	At school I've been learning how to program the computer. I have written several programs. Since I am the author and there is no copyright on the programs, I have given copies of the programs to some of my friends.
Judge:	Thank you, Mr. Morgan. You may be seated. Members of the jury, please enter your verdict for case #5 on your jury sheet.

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NAME: ______________________ **PERIOD:** __________

Copyright Court
Jury Sheet

Name of Juror ______________________________

	Defendant	Verdict	
Case #1	Joe Jones:	Guilty	Not Guilty

Notes:

Case #2	Susan Schreiner:	Guilty	Not Guilty

Notes:

Case #3	Mrs. Lewis:	Guilty	Not Guilty

Notes:

Case #4	Max Lead:	Guilty	Not Guilty

Notes:

Case #5	Mitch Morgan:	Guilty	Not Guilty

Notes:

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NAME: ______________________ **PERIOD:** __________

Good or Bad?

Read each description and tell whether you think the computer has had a positive (+) effect or a negative (-) effect for each person.

1. Bill has to send a letter to all of his customers each month. He used to address all of the envelopes by hand, but now his computer prints labels for the envelopes automatically. For Bill the computer is a

   + **-**

   Why? ______________________________

2. Jennifer is a scientist. She must keep track of all the data from her experiments--thousands of figures each day. She must add the figures, average them, and prepare graphs for comparing them. She now uses the computer to do this for her. For Jennifer the computer is a

   + **-**

   Why? ______________________________

3. Vicki must keep the budget figures for her company. She used to keep them in books. If she found she had made a mistake in one place, she had to go back and change the figures in many places. Now she finds that if she uses a spreadsheet program on the computer she is more accurate, and changing one figure will automatically change the rest. For Vicki the computer is a

   + **-**

   Why? ______________________________

4. Lorna's desktop is full of papers and books. She got a computer to put on it too. She thinks it will help her keep her desk neat, but she doesn't really know how to use it. For Lorna the computer is a

   + **-**

   Why? ______________________________

5. Margo works in a supermarket. She uses a new system that scans the bar codes on products and adds them automatically. For Margo the computer is a

   + 342 **-**

   Why? ______________________________

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COMPUTER CRIME AND ABUSE
WORKSHEET

12-16

NAME: ______________________________ **PERIOD:** __________

You Be the Judge

Read each example below and decide if you think the wrongdoing is a crime or not.

1. Tad leaves the computer on all night.

   Probably a crime **Probably not a crime**

2. Mary makes a copy of a copyrighted program she borrowed from a friend.

   Probably a crime **Probably not a crime**

3. Tim takes his teacher's gradebook disk and changes his grades.

   Probably a crime **Probably not a crime**

4. Angie bends her disk in half accidentally.

   Probably a crime **Probably not a crime**

5. Veronica uses her computer to access the bank and transfer money from someone else's account into hers.

   Probably a crime **Probably not a crime**

6. Barry uses Jerry's password without permission to get access to a database.

   Probably a crime **Probably not a crime**

7. Mr. Marion uses the computer to get access to his credit history. He changes some information that says he never pays his bills on time to say that he always pays his bills on time.

   Probably a crime **Probably not a crime**

8. Mrs. Powell needs to send a letter to her husband's attorney. She uses one of his data disks to get the attorney's name and address.

   Probably a crime **Probably not a crime**

9. Mr. Martin makes copies of all the software he owns, both commercial and public domain programs, and sends them to his son in another state so that his son won't have to buy the software.

   Probably a crime **Probably not a crime**

10. Jane writes a program and gives copies to all of her friends.

    Probably a crime **Probably not a crime**

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COMPUTER CRIME AND ABUSE **12-17**
WORKSHEET

NAME:________________________ PERIOD:_________________

FIT THE CRIME

DIRECTIONS: Fit the crime to the situation below. Fill in the blanks with the computer crimes listed below. One type of crime is used more than once.

TYPES OF COMPUTER CRIMES

Financial Fraud
Unauthorized use
Information Theft
Destruction of computer equipment or data

SITUATIONS

1. A student breaks into the main computer at school and changes his grades so that he makes the honor roll.

____

2. A person breaks into the computer of a large company and steals the designs of a new product the company is making.

____

3. A person breaks into the computer of a company. He doesn't steal money or information but he destroys records that are private.

____

4. A computer operator at a bank fixes the computer so it switches money from one bank account to another.

____

5. Janeen hears about a new computer game but she can't afford to buy it. Her friend already has the program and gives a copy to her.

____

INTENDED OUTCOME ADDRESSED IN THIS UNIT:

The student will identify careers that deal with computer hardware, software, and other computer-related areas.

INTRODUCTION

This packet contains teacher strategies, study sheets, sample tests, and a self-help module for students to take home.

VOCABULARY

batch processing
computer service technician
data entry clerk
data processing
input medium
keypunch machine
magnetic tape
programmer
systems analyst
transaction-oriented processing

SUGGESTED TEACHING STRATEGIES

Select appropriate classroom and take home activities needed to implement and reinforce the objective. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your shcool media specialist from the Palm Beach County School Board Film Library or from your personal collection.

Keep a record of all the people you encounter in one week who use a computer on their job. List how they use the computer (e.g., banks, grocery stores, traffic lights, etc.).

Discuss the various careers that directly involve the **designing, building, operating, and selling of computers.** Use Worksheet 13-3.

Invite people who **work in computer-related fields** to come to class to tell about their computer work experiences.

Look in a **newspaper help wanted section** for computer-related jobs. Cut out and display ads. Use Worksheet 13-6.

Create a help wanted section of an imaginary newspaper. Include ads for computer-related careers.

Interview people in computer-related careers to find out how they use computers in their jobs.

Develop and display **posters or a bulletin board** on computer careers and their requirements.

Use the Tandy Radio Shack pamphlet and filmstrip entitled Careers in Computers available at FDLRS/Alpha for preview.

NAME: ______________________ PERIOD: ________

Which Is Right?

Choose the best answer for each question below about computer careers.

___ 1. A person who designs computers and computer chips is a
   a. genius
   b. computer engineer
   c. systems analyst
   d. hero

___ 2. To help companies determine their computer needs, they hire
   a. your mother
   b. a computer engineer
   c. a systems analyst
   d. a computer programmer

___ 3. Which of these best describes what a computer salesperson does?
   a. gives you a computer for free
   b. sells you software and hardware
   c. designs computers
   d. fixes computers

___ 4. A computer teacher
   a. teaches the computer to do tricks
   b. teaches the computer how to add
   c. builds computers
   d. teaches people how to use the computer

___ 5. The person who organizes software and helps find it for you is
   a. a software librarian
   b. a systems analyst
   c. a computer engineer
   d. a person with a poor memory

___ 6. A technical writer
   a. fixes computers
   b. writes manuals to go with computers
   c. programs computers
   d. sells software and hardware

___ 7. The person who writes the software the computer needs is the
   a. computer technician
   b. computer engineer
   c. computer programmer
   d. computer teacher

___ 8. A person who is a word processor
   a. designs computers
   b. writes and edits documents using the computer
   c. fixes computers
   d. builds computers

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STUDY GUIDE

Select Study Sheets and Worksheets from the Study Guide section to provide students with take-home material to reinforce skills learned in class.

Reproduce only those materials that relate to the needs and ability level of the student. Use the Sample Tests to ensure student mastery of the objectives.

STUDY SHEET

NAME:____________________ PERIOD:____________________

COMPUTER CAREERS

As computers are used more and more, more jobs dealing with computers are created. Here are some jobs in the computer field.

computer operator	A person who uses a computer.
computer programmer	A person who writes the directions or commands for computers.
systems analyst	A person who designs computer systems for different businesses' needs.
computer technician	A person who repairs computers or computer hardware.
computer teacher	A person who trains or teaches people how to use computers.
sales person	A person who sells computer hardware or software in stores.

COMPUTERS AND CAREERS WORKSHEET **13-4**

NAME:________________ PERIOD:________________

CAREER DAZE

Match the name of the computer career in column 1 with the description in column 2.

Colum 1	Column 2
___ 1. systems analyst	a. write the instructions for the computer to follow
___ 2. computer programmer	b. uses computer primarily to write and edit reports, letters, and other documents
___ 3. computer salesperson	c. organizes and retrieves programs for use by others
___ 4. word processor	d. designs computers and computer chips
___ 5. computer engineer	e. sells computer hardware and software
___ 6. software librarian	f. helps people decide about the computer system they need
___ 7. computer technician	g. helps others learn to use the computer
___ 8. technical writer	h. loads and unloads files, keeps computer going
___ 9. computer teacher	i. repairs and maintains computers
___ 10. computer operator	j. writes manual for computer hardware and software

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COMPUTERS AND CAREERS **13-5**
WORKSHEET

NAME:________________ PERIOD:________________

COMPUTERS IN CAREERS

DIRECTIONS: Match the career area to the best computer function by placing the letter on the line. Use letters A-H to answer questions 1-8.

1. _______ meteorologist A. reading the Universal Product Code.
2. _______ librarian B. making room reservations.
3. _______ farmer C. forecasting the weather.
4. _______ air traffic controller D. using word processing.
5. _______ teacher E. helping planes to land.
6. _______ secretary F. keeping a record of the dairy herd production of milk.
7. _______ hotel manager G. keeping an inventory of books.
8. _______ cashier H. keeping track of student's grades and attendance.

DIRECTIONS: Use letters I-O to answr questions 9-15.

9. _______ travel agent I. taking temperatures of patients.
10. _______ nurse J. making flight reservations.
11. _______ bank teller K. checking license tags for stolen cars.
12. _______ store manager L. keeping an inventory of stock.
13. _______ telephone operator M. counting election votes.
14. _______ police N. keeping the balance in a checking account.
15. _______ government official O. connecting long distance phone calls

COMPUTERS AND CAREERS
WORKSHEET

13-6

NAME: ______________________________ **PERIOD:** ________

COMPUTERS CAREERS

Clip want ads from the HELP WANTED section of the newspaper. Try to find ads for each title below and attach the ad in the space provided.

Computer Operator

Computer Sales Person

Computer Programming

System Analyst

Computer Repair

Computer Teacher

Computer Consultant

Software Engineer

Data Entry Clerk

SUPERCOMPUTERS OF THE FUTURE

INTENDED OUTCOMES ADDRESSED IN THIS UNIT:

The student will identify at least two ways that computers and computer applications may have a major impact on the way people live, work, and play in the future.

The student will identify the meaning of artificial intelligence as it relates to computing.

INTRODUCTION

This packet contains teacher strategies, study sheets, sample tests, and a self-help module for students to take home.

VOCABULARY

architecture
artificial intelligence (AR)
experts system
fifth generation computers
inference
interactive television
knowledge-based computers
stored-programs concept
Very Large Scale Integrated Circuits (VLSIC)
voice reccognition

SUGGESTED TEACHING ACTIVITIES

Select appropriate classroom and take home activities needed to implement and reinforce the objective. Additional supplemental materials such as movies, videos, slide/tapes and books may be available from your school media specialist, from the Palm Beach County School Board Film Library or from your personal collection.

Discuss how computers **might change in the future** as more people use them (e.g., built in options like speech synthesis, voice recognition and touch tablets; compatibility between computer brands, etc.).

Design (draw) a **robot of the future.** List the things you would like the robot to be able to do. List what you do **not** want the robot to do. What will you name your robot?

Discuss the possible **positive impacts computers** could have on your life in the future. Include effects on your life at home, at work, and at play.

Computers, like many inventions, have put people out of work. Introduce this age-old problem by **making a list of such extinct jobs** as blacksmith, elevator operator, iceman, Pony Express, etc.).

Write a **diary entry** for a student of your age, fifty years from today. What do you think his or her school will be like?

Pretend that it is the **year 2500.** Think of ways computers are being used by students.

Define the term **"artificial intelligence"**.

Discuss **applications of artificial intelligence** such as: problem solving, natural language processing, pattern recognition, game playing, theorem solving, and robotics.

Discuss **current computer intelligence limitations.**

Assign students to read a **science fiction book.** Refer to the novels of **Jules Verne** and how his science fiction writing helped to pave the way for universal acceptance of space travel. Discuss some of the **technology used in the science fiction books** read by the students.

Discuss some of the science fiction movies and television shows that have been popular in recent years. **Star Trek, the Star Wars series** demonstrate some of the possible uses of computers in the future. These uses include effects on transportation, communication, robotics and the work environment.

SUPERCOMPUTERS OF THE FUTURE **14-3**
SAMPLE TEST

NAME:__________________ PERIOD:__________________

ROBOTS

DIRECTIONS: Circle the correct answer for each question.

1. Intelligent computer, of the future, must have human appearances.

   a. True
   b. False

2. Which of the following is the least likely place for robots to be used because of their expense?

   a. factories
   b. outer space
   c. private homes

3. The reading of handwritten text, by a computer, is an example of:

   a. pattern recognition
   b. logical reasoning
   c. automatic programming

STUDY GUIDE

Select Study Sheets and Worksheets from the Study Guide section to provide students with take-home material to reinforce skills learned in class.

Reproduce only those materials that relate to the needs and ability level of the student. Use the Sample Tests to ensure student mastery of the objectives.

STUDY SHEET

NAME:__________________ PERIOD:__________________

YOUR OWN ROBOT

What do you think? Circle T for True or F for False.

1. Robots are seen in movies and on TV shows today. T F

2. The purpose of a robot is to do the work of humans as efficiently and automatically as possible. T F

3. The form of a robot is **always** like a human being. T F

The answers to one and two above are TRUE. The answer to three is FALSE.

Depending upon what the robot is designed to do, it can take the form of artificial humans or it can be an inhuman-looking piece of machinery, such as those used in factories.

Think of a specific job that you would like to build a robot to do for you. Move the lawn, clean the pool, or drive your car? What does the robot need?

First, it would need a power system to make it move.

Second, it would have to have arms and/or legs that would allow it to move where needed.

Third, this special robot of yours would have to have some form of intelligence or control system to instruct its arms and legs to do the job.

Write the three systems **mentioned above** that a robot needs:

____

____

____

SUPERCOMPUTERS OF THE FUTURE
STUDY SHEET

NAME:________________ PERIOD:________________

ARTIFICIAL INTELLIGENCE (A.I.)

Artificial Intelligence is the ability of future computers to think as humans do. An intelligent computer need not have human appearances, senses or emotions but it will process information very rapidly and "decide" what to do. Future computers will only be limited by their design.

Many science fiction movies have shown different types of possible computers of the future. Aliens, Star Wars, Star Trek and Short Circuit are just a few examples. These robots are often called androids or cyborgs, and they have often been created to do a certain job. In the movies, you see them thinking and reacting to situations. Many people think some of the robots of the future will be similar to the ones you now see in the movies.

Applications of artificial intelligence include:

1. Problem solving - test alternative solutions to problems
2. Natural language processing - serve as a translator
3. Pattern recognition - read handwriting
4. Game playing - Master Chess or other arcade type game
5. Theorem solving - perform calculations to test theories
6. Robotics - assemble cars, appliances or mix chemicals

NAME:________________ PERIOD:________________

COMPUTERS IN THE FUTURE

It is the year 2500.
Write a story about your day
and how computers are being used.
Think of ideas from science fiction books, movies or TV shows you have seen.

NAME: ______________________________ PERIOD: __________

Past, Present or Future?

Read each paragraph and decide if it could have taken place in the **past**, it could take place in the **present**, or it might take place in the **future**. Underline any words that give you a clue.

1. Sam put the quill pen back in the ink well. He had finished writing the letter to Marie. He closed it with sealing wax and stamped it with his family's crest. Now he had to get it to the Pony Express office.

   Past Present Future

2. Linda typed her report into her computer using the word processing program she learned at school. She made sure it filled three pages by using the word processing program to give it large margins and to double-space it.

   Past Present Future

3. Tim pushed a button and the news appeared on his screen. He typed the word "basketball" and pushed "print," and all day's latest sports stories containing the word "basketball" were instantly printed on his laser printer. He could hardly remember when he read the newspaper everyday for information. He really liked this small screen.

   Past Present Future

4. Jim knew this was a big story and the rest of the world had to know about it! He took his story to the telegraph office and sent word to his newspaper in the next town.

   Past Present Future

5. Rex, the robot, knew Mr. Cornwall would be home soon. He walked the dog and prepared dinner as Mr. Cornwall had programmed him to do.

   Past Present Future

6. Mr. Orning needed to know what would happen to his company's profits if they were able to triple the production of the product by increasing the number of people they employed by 10%. He entered all the data into the computer and waited for it to calculate the results.

   Past Present Future

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SUPERCOMPUTERS OF THE FUTURE WORKSHEET

NAME: ______________________________ PERIOD: _________

PAST, PRESENT AND FUTURE

Complete this chart by describing how things were done in the past, how they are done in the present, and how they might be done in the future.

Past	Present	Future
Quill pen and inkwell		
	Riding Lawn Mower	
		Space Ship
	Microwave Oven	
Pony Express		
	Calculator	
	Video Games	

360

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SOFTWARE WORKSHEETS

Software worksheets have been developed for select software titles adopted for the "Introduction to Computers" course. Teachers are encouraged to develop additional worksheets, as appropriate, for other software programs in use in their classroom.

Audio tapes are also available to accompany select software titles. The audio tape scripts follow the software screens and "read" the information to students. This is a particularly helpful technique for auditory learners or for students with reading problems.

Note: Additional worksheet activities for word processing are located in Chapter 8. These worksheets are NOT software specific.

TYPING INSTRUCTOR
SOFTWARE ACTIVITY

SOFTWARE 1

NAME: ______________________________ **PERIOD:** ______

DIRECTIONS: This worksheet is designed to use with the software program entitled TYPING INSTRUCTOR. This program is IBM machine-specific in some of the information provided. The worksheet follows along with the activites presented in the software.

As you complete an activity using the computer, write down what you have learned on the worksheet.

Your teacher will give you directions about how much of the software program and worksheet should be completed each day.

SOFTWARE INSTRUCTIONS:

Using the TYPING INSTRUCTOR, press CTRL E and select the "WORD PROCESSING" lesson. Then answer the following questions or fill in the blanks.

- -

1. What do the following do in this program?

+ ____________________ turn page ____________________

- ____________________ turn back ____________________

c ____________________ table of contents ____________________

____________________ select page ____________________

CTRL + E ______________ main menu ____________________

2. What is the name given to a class of computer programs that help computer users ______________________________ and ______________________________ documents ____________________________? (Fill in the blanks to the question, then answer the question.)

____

____

3. Where is the temporary text stored in a word processor?

____

4. When you are through with your typing, a permanent version of your document can be stored ______________________ on a diskette.

5. When needed, again, they are ______________________ into the computer ______________ and ____________ on the monitor screen, ready for instant use.

6. Where is a document displayed? ______________________

7. What does "formatting" refer to in word processing?
____
____

8. The special screen to format lets you identify what four things?
a. ______________________________________
b. ______________________________________
c. ______________________________________
d. ______________________________________

9. If you need to change formats, is this a problem? (Circle one)
YES NO

10. What does "word wrap" mean?
____

11. What does "right margin hyphenation mean?
____

12. What do you do to indent a paragraph?
____

13. What two things are available on the word processor that makes TEXT enhancements?
a. ______________________________________
b. ______________________________________

14. What does the editing command of search and replace do in word processing?______________________________________
____

15. What two keys allow you to accomplish simple corrections?
    a. ______________________________
    b. ______________________________

16. What is the difference between backspacing and deleting? What happens on the screen?

    ____

17. What happens when you insert a word or letter between two words?

    ____

18. Can you figure out how to type over an incorrect letter without all of the other letters and words moving to the right? If you can, explain how. ______________________________

    ____

19. Editing power is supplied through what tgwo commands? Define what each does.
    a. ______________________________
    b. ______________________________

20. Search and Replace allows you to do what?

    ____

HOMEWORD **SOFTWARE 4**

SOFTWARE ACTIVITY

NAME: ____________________________ **PERIOD:** __________

This worksheet is designed to use with the software program entitled HOMEWORD. The directions are IBM machine-specific. The STUDENT ACTIVITY DOCUMENT DATA DISK is available from the School Board of Palm Beach County District Computer Services. The worksheet follows along with the activities presented in the software.

As you complete an activity using the computer, write down what you have learned on the worksheet.

SOFTWARE INSTRUCTIONS

Using the HOMEWORD diskette, boot up the computer and follow these instructions.

1. After booting up the system, **remove the HOMEWORD disk,** after the screen has stopped with a selection of pictures at the bottom of the screen, and **insert the STUDENT ACTIVITY DOCUMENT DATA DISK** into **drive A.**

2. Press the **ESCAPE** key, to get to the **MAIN MENU.**

3. Using the **left and right arrow keys** on the numeric pad, **change the words at the bottom** of the screen **to read "FILE"** then press **ENTER.**

4. Using the **left and right arrow keys** on the numeric pad, **change the words at the bottom** of the screen **to read "GET DOCUMENT"** and press **ENTER.**

5. Using the **up and down arrow keys** on the numeric pad, **change the DIRECTORY name** to read **"DEL/INS"**, then press the **ENTER** key. This will bring to the screen that particular activity.

6. Make the changes or corrections required by the assignment you have selected. **Don't forget,** you must **move the cursor** to the line that needs to be changed. If you need to type text, you must also move the cursor to the correct line before you begin typing.

7. **Change** the words at the **bottom of the screen** to read **SELECT FILE**, and press **ENTER.**

8. **Change** the words at the **bottom of the screen** to **SAVE DOCUMENT**, press **ENTER.**

9. **Type in your last name** and press **ENTER**, then **go back to the MAIN MENU**, by pressing the **ESCAPE key, twice.**

10. You may stop here until the next day by selecting **from the MAIN MENU** the **END command,** then press **ENTER.**

HOMEWORD
SOFTWARE ACTIVITY

SOFTWARE 6

NAME: ______________________________ PERIOD: ______

HOMEWORD ASSIGNMENTS TO BE COMPLETED

1. **Type your name.**
   Move the cursor to the first letter of your name.
   Press the DEL (delete key) until all the letters of your name have been deleted (erased). Press the ENTER key, when finished.

2. Type the following sentence:

   The printer will make a copy of your document.

   The word "hard" has been omitted.
   Move your cursor to the "c" in copy.
   Make sure the insert key is on (you will know it is on if you see a blinking square on the screen).
   Type the word **hard** and press the space bar.
   Press the ENTER key, when finished.

3. Type the following sentence:

   The keyboard keyboard is used to input information into the computer.

   Notice that the word keyboard is typed twice.
   Move the cursor to the "k" in either word keyboard and press the DEL (Delete key) until the word has been deleted (erased).
   Press the ENTER key, when finished.

4. Type the following sentence:

   The monitor is a piece of hardware.

   Turn the Insert key off (you will know it is off when you see a blinking line).
   Move the cursor to the "m" in monitor.
   Type keyboar, now turn on the Insert key (you will know it is on if you see a blinking square on the screen).
   Type d.
   Press the ENTER key, when finished.

You should now see the following sentence on the screen:

The keyboard is a piece of hardware.

WHEN FINISHED, DO THE FOLLOWING PROCEDURES, OR **IF TIME RUNS OUT.**

a. **Press ESCAPE.**
b. At the Main Menu, using the left and right arrow keys, change the word at the bottom of the screen **to FILE,** then press ENTER.
c. Using the left and right arrow keys, change the word at the bottom of the screen to **SAVE DOCUMENT**, then press ENTER.
d. **Type in your last name** and press ENTER.
e. Go back to the Main Menu by **pressing ESCAPE twice**. Change the picture so that the word **END** is highlighted.
f. **Turn off the computer.**

PROFESSOR DOS
SOFTWARE ACTIVITY

Review the following directions orally with student.

1. After turning on the computer with the DOS disk in drive A, which is the left door, what do you type, or key in first, into the computer?

2. How many times do you depress the ENTER key so that the A> appears, after you have typed in the date?

3. What disk drive do you place PROFESSOR DOS Disk in #1?

4. What disk drive do you place PROFESSOR DOS Disk in #2, if you have a dual disk drive?

5. When the A> appears, what command do you enter into the machine?

DIRECTIONS: Answer the following questions from the information provided from the PROFESSOR DOS disk.

1. What does the Professor DOS program help you to do?

2. INSTRUCTIONS: READ THE TABLE OF CONTENTS AND WRITE THEM HERE.

3. Copy the Command list and define what each does.

4. Depress the CTRL A. What two keys do you press to EXIT to the main menu?

5. What two keys do you press to got to the NEXT screen?

6. What two keys do you press to go to the SPECIAL REQUEST screen?

7. What two keys do you press to go to the DEMONSTRATION MODE screen?

8. What command do you use to turn the music on and off?

9. If you want to read at a pace under your total control, then what should you do?

DIRECTIONS: RESPOND TO THE QUESTION "DO YOU ACCEPT THIS ASSIGNMENT? BY TYPING IN A Y.

10. What does DOS stand for?

11. What is important to note about DOS?

12. What is an operating system?

13. An operating system gives you what general tools?

14. Why do all users of an IBM PC disk operating system need DOS?

15. Where is DOS located?

16. Where does DOS get transferred to?

17. What disk drive is DOS inserted into?

18. When the A> appears, what can be found immediately next to it?

19. What is A> called?

DIRECTIONS: TYPE IN YOUR **FIRST NAME** AND PRESS ENTER.

20. Would DOS understand your name?

21. Why couldn't DOS understand your name?

22. If DOS doesn't understand you, what message will it print?

23. What does DOS recognize?

24. What are the two types of DOS commands?

25. Where are the internal commands located?

26. Where are the external commands located?

DIRECTIONS: Type in **BASIC** and then press ENTER.

27. What do you type to get yourself back to the DOS prompt (A>), when using the PROFESSOR DOS?

28. Which drive is drive A? Left or Right?

29. Which drive is drive B? Left or Right?

30. What command would you type to switch the computer from drive A to drive B?

31. What two keys do you press to produce a colon : on the screen?

DIRECTIONS: Change the DOS prompt from A> back to B>. Then reverse it back to the A>. Finally, go back to the B> and watch what happens.

32. What does DEFAULT mean?

33. Unless you specify another disk drive to use, what will DOS always use unless told differently?

DIRECTIONS: FILL IN THE ANSWER FOR THE QUESTIONS.

34. In a filing cabinet system, there are four (4) parts. What is a computers systems' four (4) parts that match a filing system?

FILING CABINET __________________

FILE CABINET DRAWER __________________

FILE FOLDER __________________

NAME ON FILE FOLDER __________________

35. What signifies, or tells you, what is on a particular disk?

36. What two things should you do when you start with a blank diskette?

37. All files must have something. What is it?

38. What two parts does a file name have?

DIRECTIONS: FILL IN THE FILENAME.

39. Why are file extensions used?

40. List what these file extensions mean:

.LET ____________________

.BAS ____________________

.COM ____________________

.INV ____________________

DIRECTIONS: FILL IN THE EXTENSION.

41. Besides having the file name that you specified, what else must DOS have in order to respond to your needs?

42. What happens if you do not supply a drive letter?

DIRECTIONS: COPY THE EXAMPLY OF THE FILESPEC WHICH INCLUDES THE DRIVE, THE FILENAME, AND ITS EXTENSION.

43. How many characters may a file name be made up of?

44. Do you have to have an extension?

45. What must the extension consist of?

46. In a FILESPEC naming, what characters may not be used?

DIRECTIONS: TYPE IN A VALID FILESPEC.

47. What does KISS stand for?

48. What does [ ] stand for?

49. What will DOS do if you insert a file name that is too long?

50. What is the special table called on every diskette?

51. How much room does each diskette directory have for file names?

EDITING

52. What are the special DOS editing keys?

53. A template does what?

54. What two things does the BACKSPACE key do?

DIRECTIONS: FIX THE ERROR.

55. What does the ESC key do?

DIRECTIONS: PRESS THE ESC KEY.

56. What appears after you have pressed ESCAPE?

DIRECTIONS: CANCEL THE LINE, THEN TYPE SOMETHING AND PRESS ENTER, PRESS F3, THEN PRESS ENTER.

THE INSTRUCTOR
SOFTWARE ACTIVITY

SOFTWARE 13

NAME ______________________ **PERIOD** ____________

This worksheet is designed to use with the software program entitled THE INSTRUCTOR. This program is IBM machine-specific in some of the information provided. The worksheet follows along with the activities presented in the software.

As you complete an activity using the computer, **write down what you have learned on the worksheet.**

Your teacher will give you directions about how much of the software program and worksheet should be completed each day.

SOFTWARE INSTRUCTIONS:

WHEN TOLD TO PRESS ANY KEY TO CONTINUE, USE THE SPACE BAR.

MAKE SURE THE INSTRUCTOR IS INSERTED INTO DRIVE "A", BEFORE TURNING ON THE DISK DRIVE.

WAIT UNTIL THE SCREEN SAYS "YOUR CHOICE", "PRESS ANY KEY FOR STEP-BY-STEP TRAINING," THEN PRESS THE SPACE BAR.

ANSWER THE FOLLOWING QUESTIONS, AS THOROUGHLY AS YOU CAN, BY READING THE MATERIAL PRESENTED ON THE SCREEN DISPLAYS:

- -

1. What will THE INSTRUCTOR help you to learn? (Press the space bar.)

2. Copy the Table of Contents titles that are written in white. (Press the space bar.)

3. List the six applications that your PC can be used for. (Press the space bar.)

4. What is the first step in learning to master your PC. (Press the space bar.)

5. List the five types of keys found on the keyboard.(REMEMBER: ANYTHING WRITTEN IN YELLOW THAT HAS A HAPPY FACE IN FRONT OF IT, IS A PROCEDURE YOU MUST FOLLOW.)

6. Are computers as complicated to use as they once were?

(REMEMBER: USE THE NUMBERS AT THE TOP OF THE KEYBOARD TO ANSWER THE QUESTIONS THAT HAVE MULTIPLE CHOICE ANSWERS.)

7. What other name is used for the ENTER key?

8. What is the ENTER key used for?

9. What must you do before the computer will process any information that you put into it?

10. How can you recognize the difference between the number zero and the letter "O"?

11. What are the three most valuable typing keys?

12. What does the space bar allow you to do?

13. What symbol is used on the backspace key?

14. What is the backspace key used to do?

15. What is the Caps Lock key used for?

16. What should be noted about the Caps Lock key when it comes to the top row keys on your keyboard?

17. When is the Tab key useful?

18. What does the Tab key do?

19. How many shift keys are there?

20. How do you use the shift key?

21. What is the proper method of using the shift key in order to create capital letters?

FUNCTION KEYS

22. What two things are function keys used for?

23. What is DOS?

24. What is BASIC?

25. When using DOS, what are the function keys used for?

26. When using BASIC, what are the function keys used for?

PC COMMANDS

27. What two things does the Escape key allow you to do?

28. Give an example of a combination key (i.e. a function that takes two or more keys to complete).

29. How do you use a combination key?

30. What two keys do you press to get the BREAK function?

31. What can the BREAK command do?

32. What two keys do you press to pause?

33. When do you press the pause keys?

(DON'T DO A SYSTEM RESET!!!!)

34. A system reset does what?

35. What are two PC commands to print?

36. List the three things you should do in order to print.

(JUST WAIT, IF YOU ARE NOT HOOKED UP TO A PRINTER, FOR A FEW MINUTES. NETWORKED COMPUTERS MUST TAKE TURNS USING THE HOST PRINTER.)

37. What does Print Echo do?

MORE KEYBOARDING

38. What two things are the numeric keypad used for?

39. How do you change the numeric keypad positioning?

40. How is the cursor moved? (REMEMBER THE **NUMERIC LOCK KEY** WHEN USING THE CURSOR ARROWS.)

41. List the four position keys.

42. What does the Home key do?

43. What does the Page Down key do?

44. What does the Page Up key do?

45. What does the End key do?

46. What is the Insert key used for?

47. What is the Delete key used for?

48. What are the keys that divide the keyboard between the right hand and the left hand for typing purposes? Identify each key.

49. What are the home row keys?

50. Why do you use the home row keys?

51. Why do you return your fingers back to their home base keys?

52. What do software menus allow you to do?

53. Copy the six INSTRUCTOR commands that are written in yellow with a purple background.

(USE CTRL N TO GO TO THE NEXT PAGES, AFTER PERFORMING WHAT THE HAPPY FACE WANTS. WHEN AT THE MAIN MENU, SELECT "E", MEET YOUR PC HARDWARE. TYPE A "Y" THAT YOU DO ACCEPT THE ASSIGNMENT.)

54. What sizes do PC's come in?

55. What is a printer used to do?

56. What are diskettes used to do?

57. What is the PC system's brain?

58. Where is the microprocessor located?

59. What happens to the user memory, RAM, when the PC is turned off?

60. Name the two types of disk drives that are available.

61. What are electronic cards used for?

62. What do input devices do?

63. What do output devices do?

64. Name three devices that are both input and output devices.

65. What sizes does user memory come in?

66. Identify four characteristics that help to expain ROM.

67. Identify four characteristics that help to explain RAM.

68. Define data communication.

69. Define telecommunications.

70. What does telecommunications require? How does this work?

71. Define LAN and how it is used.

72. Name the three types of printers and describe each.

SELECT F - - SOFTWARE AND APPLICATIONS

73. What four things does software consist of?

74. Give five examples of application programs.

75. Define spreadsheets. What do they replace?

76. Name a spreadsheet's four primary uses.

77. Define a CELL.

78. What are CELLS filled in with?

79. What do you use to move to another cell on the screen?

80. Why are labels used? What must they start with?

81. If you want a calculation to be performed, what must be entered?
Where do you put it?

82. What do spreadsheet programs remember?

83. What is a spreadsheet's greatest asset?

DATA BASE MANAGEMENT

84. Define DBM.

85. What are some of its primary uses?

86. What does a file contain?

87. What does each record contain? Define what these do.

88. What are the four steps in creating a data system?

89. Sorting may be done by what?

90. Why are data bases a real power? What can you do with them?

91. Data base programs provide what two things?

WORD PROCESSING

92. Define word processing.

93. List word processing's primary uses.

94. Where can word processing documents be save for future use?

95. What makes word processing programs a great time-saver?

96. What process can happen with word processing that allows customized mailings?

TELECOMMUNICATIONS

97. Define telecommunications.

98. What are its primary uses?

99. What does telecommunications let you do?

100. How do you pay for telecommunication services for your computer?

101. What are passwords and account numbers used for?

INTEGRATED SOFTWARE

102. What are the two key features of integrated packages?

103. Describe the three approaches to integration and how each works.

104. Define windowing.

105. Define multi-task.

ESSENTIAL DOS COMMANDS

106. Where is DOS located?

107. Define DOS.

108. What three things does DOS help you to manage?

109. Define the word FILE and where it is located.

110. Define the DOS prompt.

111. Define a file name and what it may consist of.

112. Define a filespec and what it needs.

113. When is a default drive assumed?

114. What three things does a DOS command consist of?

115. If DOS does not understand you, what will it print on the screen?

116. What four things are your responsibility when dealing with DOS?

117. What are the two most important diskette commands?

118. To make a disk work on your PC, what must you first do?

119. What does dual-sided mean?

120. What caution should you remember when you format a disk?

121. Why is it important to make a backup copy of a disk?

122. What other two names can be given to the original diskette when making a backup copy?

123. What three things do you need to make a backup copy?

124. The DOS file commands let you answer three questions, list them.

125. What does the DOS directory list?

126. What do you type to see a list of programs currently stored on a disk?

127. What does the erase command allow you to do?

128. What is a good practice to use after you have erased a file?

129. What are the primary uses of the COPY command?

130. If the copy action is complete, what should be seen on the screen?

131. What reasons are given that a file would not copy completely?

132. What does the DOS command TYPE cause to happen?

133. How does DOS use dates and times?

134. Why is time stamping important?

135. What is the form for typing in the time?

DICTIONARY -- PRESS "H"

PRESS THE NUMBER TWO (2), TYPE IN A PREFIX AND THEN A SUFFIX TO A WORD.

136. What is a hard disk drive size measured in? What does that equal?

137. Describe integrated software.

138. What does 1K stand for?

139. Define a laser printer.

140. Define a letter-quality printer.

141. Define a DOT matrix printer.

EXPLORING THE IBM PC SOFTWARE 26
SOFTWARE ACTIVITY

NAME ________________ DATE ________________

Directions: This worksheet accompanies the software entitled Exploring the IBM PC. This program is IBM machine-specific in the information provided. The worksheet follows along with the activities presented in the software.

Answer the following questions using the software program.

CHAPTER 1: Instructions

1. Page Down key allows you to see the ____________________ page.

2. Page Up key allows you to see the ______________________ page.

3. What two keys do you hold down to review a chapter?

   __________ ____________

4. What two keys do you hold down to skip the next chapter?

   __________ ____________

5. What key turns the sound effects off and on?

   ____

CHAPTER 2: The Keyboard

1. What key works like a carriage return?

   ____

2. How many function keys are found on the Keyboard?

   ____

3. What do the Cursor keys do? ________________________________

4. What does the Num Lock key do? _____________________________

CHAPTER 2 continued

5. What two Modifier keys work like Shift keys?

_____________ _______________

6. Now, go through the keyboard and explore the function of each key.

NOTE: Remind students not to press page down until all other function keys have pressed. Remind them to pay particular attention to cursor keys, delete, insert, and num lock. Screens with hearts on them give the students practice at using the keys they have just learned.

EXPLORING THE IBM PC
SOFTWARE ACTIVITY

NAME ____________________ PERIOD ____________________

DIRECTIONS: This worksheet is designed to use with the software program entitled Exploring the IBM PC. This program is IBM machine-specific in the information provided. The worksheet follows along with the activities presented in the software.

Answer the following questions contained in this program.

CHAPTER 3: Disk Storage and DOS

1. How many characters of data can one side of a diskette hold?

   ____

2. How many characters can a fixed disk hold?

   ____

3. You should keep your diskettes away from ________________,

   ________________, ________________, ________________,

   and ________________.

4. How do you write protects your diskette? ________________

5. How can you protect against loss of valuable files? ________________

6. What stores the names and vital statistics of files?

   ____

7. The computer porgrams that manage files and directories are called

   the ____________ ________________ ________________.

8. How can you reset the computer? ________________________

9. What symbol is called the DOS prompt? ________________________

10. Which drive is the default drive? ________________________

CHAPTER 3 continued

11. What DOS command displays a directory? ____________________

12. What DOS command prepares a new diskette? _________________

13. What DOS command copies an individual file? _________________

14. What DOS command copies an entire diskette? ________________

EXPLORING THE IBM PC SOFTWARE 30
SOFTWARE ACTIVITY

NAME ____________________ PERIOD____________________

DIRECTIONS: This worksheet is designed to use with the software program entitled Exploring the IBM PC. This program is IBM machine-specific in the information provided. The worksheet follows along with the activities presented in the software.

Answer the following questions presented by this program.

CHAPTER 4: BASIC Programming

1. A ________________________ is a list of instructions that tells the Personal Computer what to do.
2. What keys are used in BASIC to save typing? ______________________
3. What function key do you press to LOAD a program? ________________
4. What funtion key do you press to LIST a program? __________________
5. What function key do you press to RUN a program? _________________
6. What function keys do you press to SAVE a program? _______________

*7. What does CLS do? ____

8. BASIC has more than _________ unique commands.

*If the students miss a step with the "CLOCK" routine, they won't find the answer to #7.

NAME ____________________ **PERIOD** ____________________

DIRECTIONS: This worksheet is designed to use with the software program entitled Exploring the IBM PC. This program is IBM machine-specific in the information provided. The worksheet follows along with the activities presented in the software.

Answer the following questions on this program.

CHAPTER 5: The Printer

1. What direction do you feed the paper into a printer? ______________
2. What does TOF stand for? ______________________________________
3. The ____________________ light shows that the printer is not busy.
4. Pressing the LINE FEED switch once will advance the paper ________ line (s).
5. The ON-LINE light must be ______________ for the LINE FEED switch to work.
6. Pressing the FORM FEED switch once will advance the paper from its current position to:

   ____

7. The ON-LINE light must be ___________ before the FORM FEED switch will work.
8. What two keys do you press to print a screen?

   ______________________ ______________________________

(NOTE: Require students to take step-by-step instructional notes to use the printer properly when completing word processing section.)

ANSWER KEYS

Answer keys are provided for most of the worksheets in this supplemental curriculum. Note that some answers can VARY and the teacher should use his or her discretion in scoring the student's work.

Extra-credit is frequently identified on the worksheets. Students should not be penalized if they choose to not do the extra credit. On the other hand, they should understand that completing the extra credit will help their grade.

One teacher makes it possible for students to get more than 100% on their worksheet/daily work grade. Any percentile above the 100% is then averaged in with the test grades to give students an opportunity to raise their test averages.

Extra credit can be given and used in other creative ways. One teacher gives extra credit points if students color the pictures on the worksheet. This demonstrates extra initiative on the part of the student, and the effort is rewarded.

These teachers are creating opportunities for all students to succeed.

Note: Worksheets and answer keys can be made into transparencies so that the activity can be completed as class work.

FROM HANDS TO COMPUTERS
ANSWER KEY

Page A-3

7
2
3
1
10
9
4
8
5
6

Page A-4

Abacus
Hollerith's tabulating machine
Punched card
Stepped Reckoner
La Pascaline
Slide rule

Page A-5

1. E
2. D
3. A
4. C
5. B

Page A-6

Part I

1. C
2. F
3. A
4. G
5. E
6. D
7. B

Part II

8. N
9. L
10. H
11. J
12. I
13. K
14. O
15. M

Page A-11

1. C
2. B
3. E
4. G
5. A
6. F
7. D
8. H
9. I

Page A-13

1. Hollerith
2. Pascal
3. Leibnitz
4. Jacquard
5. Babbage

NAME: ______________________________ **PERIOD:** __________

CHAPTER 1

Directions: This worksheet accompanies Chapter 1 - What a Computer Is and How It Works, in your textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Fill in the missing information or words according to the specified pages and paragraphs.

Begin on **Page 3** (the last paragraph)

1. List four occupations mentioned that use computers to help them do their job.
   a. doctors - diagnose diseases
   b. Postal workers - sort mail
   c. Police officers - records of criminals
   d. Musicians - compose music

Page 4

2. The definition of a computer is: an electronic tool that helps people do many different things faster, easier, or better. (Paragraph 5)

Page 5

3. .....the airline company uses a computer to help organize its flight information and reservations. (Paragraph 2)

4. The word DIGITAL has to do with counting numbers. (Paragraph 4)

5. A analog computer solves problems or answers questions by measuring the quantity of something that changes continiously?

6. Where can a simple analog computer be found in every automobile? (Paragraph 5) car's speedometer

Page 6

7. ____Mainframe____ computers are often large enough to fill a huge room. (Paragraph 4)

8. What government agency uses a mainframe computer?
____Postal Service____ (Paragraph 4)

9. A ____minicomputer____ system is often about the size of the ____refrigerator____ and ____stove____ in your kitchen. (Paragraph 5)

10. Many businesses use minicomputers for calculating their employee ____weekly payroll____ or maintaining other employee ____information____. (Paragraph 5)

11. MICROCOMPUTERS are also called "____home____ computers" or "personal computers." (Paragraph 6)

Page 7

12. MICROCOMPUTERS are usually about the size of a ____typewriter____ and a small ____TV set____ ________.
(Paragraph 1)

13. Why does one computer cost less than one hundred dollars, while another computer costs millions of dollars? One of the answers has to do with the amount of ____information____ (words, numbers, or symbols) that a computer can ____store____ inside itself at any one time. (Paragraph 3)

14. The amount of information a computer can store is called simply, ____memory____. (Paragraph 3)

Page 8

15. 64K memory means the computer can store approximately ____64,000____ letters, numbers, or symbols. (Para. 1)

16. The amount of memory a computer has is measured in ____kilobytes (k)____. (Paragraph 2)

17. The term KILOBYTES stand for ____1,000____, so 1K of information is equal to approximately ____1,000____ numbers, letters or symbols. (Paragraph 3)

18. A dedicated computer is permanently programmed--given instructions--to handle one particular kind of task. (Give two examples of this kind of computer. word processor and airline reservations) (Paragraph 5)

Page 9

Extra Credit:
Find the Answers to the Checkpoint questions within Chapter 1 and record your answers here.

19. What kind of computer is designed to handle one specific kind of task?
dedicated or special-purpose

20. What is the name of a tiny computer often found in home appliances?
analog

21. How do the size and cost of a minicomputer differ from those of a
    a. mainframe computer: size of huge room, $100,000 and up
    b. microcomputer sits on desk, $100 to $5,000

Page 12

22. The parts of the computer that you see are called hardware. It is the term used to describe the physical components of a system--the parts you can see and touch. (Paragraph 2)

23. An input unit is used to enter instructions or information into a computer's memory. (Paragraph 4)

24. The most common input unit for microcomputers is a typewriter -like keyboard. (Paragraph 4)

25. Another common input unit for a microcomputer is called a disk drive. (Paragraph 5)

26. A disk drive "reads" information that is stored on a flat, circular object called a diskette, or disk for short, and then sends the information into the computer's memory. (Paragraph 5)

27. A third input unit is an ordinary audio cassette player. It reads and sends information from an ordinary cassette player. (Paragraph 5)

28. The processing UNIT is where the computer does all of its work. (Paragraph 7)

29. In fact, the PROCESSING UNIT is the real "computer". (Paragraph 7)

30. The processing unit of a microcomputer is built on a tiny chip of a subtance called silicon. (Paragraph 8)

31. This silicon chip is called a microprocessor. (Paragraph 8)

32. In order for the computer to show the results of the work done by the computer, the computer needs an output unit. (Paragraph 9)

Page 14

33. One kind of output unit looks like an ordinary TV set, and is called a monitor. (Paragraph 1)

34. This is also called a VIDEO DISPLAY TERMINAL or a CRT (Cathode Ray Tube). (Paragraph 1)

35. Another output unit is called a HARD-COPY printer. It produces a printout of the computer's work on paper. (Paragraph 2)

36. Disk drives and cassette recorders are also output units, since you can use them to store and save the work that the computer has done. (Paragraph 2)

37. The INSTRUCTIONS or programs that tell a computer what to do come in different forms. (Paragraph 5)

38. Some programs are built into the computer. Other programs are typed into a computer on a keyboard. Still other computer instructions are "fed" into the computer from a disk or cassette, or some other form. (Paragraph 5)

Extra Credit
Find the anwers to the Checkpoint questions within Chapter 1, pages 12 to 14, and record your answers here.

39. What do you call a device that is used to put information into a computer? input unit

40. Where does a computer do all of its work?
processing unit (also called CPU or Central Processing Unit)

41. What is another name for a CRT?
monitor, Cathode Ray Tube, Video Display

WHAT A COMPUTER IS AND HOW IT WORKS
ANSWER KEY

Page 1-9 -
Sample Test
CAN COMPUTERS IMPROVE THE PERFORMANCE OF CERTAIN TASKS?

1. T
2. F
3. T
4. F
5. T
6. T
7. T
8. T
9. T
10. F

Page 1-10
Sample Test
ADVANTAGES OF COMPUTERS

1.
2. X
3. X
4.
5.
6. X
7. X
8.
9. X
10. X
11.
12. X

Page 1-11
Sample Test
CHECKING YOUR KNOWLEDGE OF TYPES OF COMPUTERS

1. T
2. T
3. F
4. F
5. T
6. T
7. T
8. F
9. T
10. F
11. T
12. T
13. T
14. T

Page 1-12
Worksheet
DON'T BE RIDICULOUS!
(Some answers could vary)

	Possible	Ridiculous
1.		X
2.	X	
3.		X
4.	X	
5.	X	
6.	X	
7.		X
8.	X	
9.	X	
10.	X	
11.	X	
12.	?	X
13.		X
14.	X	
15.	?	
16.	X	
17.		X
18.	X	
19.	X	

Page 1-13
Worksheet
THAT'S WHY WE USE COMPUTERS!
Answers May Vary!

	Speed	Accuracy	Control	Repetition
1.	X	X		X
2.	X	X		X
3.	X		X	
4.	X	X	X	
5.	X		X	
6.	X	X	X	
7.	X	X	X	X
8.	X	X	X	
9.	X	X	X	X
10.	X	X	X	X
11.	X	X	X	X
12.	X	X	X	X
13.	X	X	X	X
14.	X	X	X	X
15.	X	X	X	X
16.	X	X	X	X

(16. is not legible)

Page 1-14
Worksheet
COMPUTERS AND PEOPLE-DO YOU KNOW THE DIFFERENCE?

1. P
2. C
3. P
4. C
5. P
6. P
7. P
8. C

Page 1-14 continued

9. P
10. C

Page 1-15
Worksheet
PEOPLE, COMPUTERS OR BOTH

1. People
2. Both
3. People
4. Computer
5. People
6. Computer
7. Both
8. Computer
9. Computer
10. People
11. Both
12. People

Page 1-18
Worksheet
SPECIAL OR GENERAL PURPOSE COMPUTERS

1. S
2. G
3. S
4. S
5. S
6. S
7. G
8. S

Page 1-17
Worksheet
DEDICATED OR GENERAL PURPOSE?

	Dedicated	General Purpose
1.	X	
2.		X
3.	X	
4.	X	
5.		X
6.	X	
7.	X	
8.	X	
9.		X

Page 1-18
Worksheet
COMPUTER TERMINALS OR STAND-ALONES

1. S
2. S
3. T
4. S
5. S
6. T

Page 1-21
Worksheet
TWO SIZES OF COMPUTERS

	Microcomputer	Mainframe
Cost	$1199.00	$730,000.00
Weight	31lbs	N.A.
Size	Table-top	8' x 4'
Speed	Fast	Faster
Memory	720K	16 megabyte
Number of users	5	300
Peripherals	7 ports	lots
Uses	General-purpose	Specific purpose

Page 1-23
Worksheet
WHO IS FASTER? THE COMPUTER OR YOU?

1. Varies with student
2. 56,944.734
3. Answer vary
4. Seconds

*a. 480 problems
*b. 2,400 problems
*c. 8 years

COMPUTERS IN OUR LIVES **2-4**
TEXTBOOK WORKSHEET

NAME:______________________________**PERIOD:**__________

CHAPTER 2

Directions: This worksheet accompanies Chapter 2 - Computers in Our Lives, in your textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Fill in the missing information or words according to the specified pages and paragraphs.

Begin on **Page 19**

1. NASA officials controlled the launch and then monitored the space flight. (Paragraph 1)

2. The Department of Health and Human Services uses computers to maintain information about senior citizens who are eligible for social security benefits. (Paragraph 2)

3. In the Treasury Department, the IRS uses computers to check individual income tax returns and to send tax refunds to millions of people each year. (Paragraph 2)

4. The FBI uses computers to keep detailed information about crimes and known criminals. (Paragraph 2)

Page 21

5. The National Meteorological Center's computers incorporate more than 100, 000 daily weather reports from around the world. The computers use these reports to produce "models": of the atmosphere, which help forecasters predict the weather. (Paragraph 2)

Page 22

6. Computers help with planning budgets, paying employees, controlling traffic, and maintaining records of all kinds. (Paragraph 1)

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN CHAPTER 2 AND RECORD YOU ANSWERS HERE.

7. Name the first commercially available electronic computer. By what agency of the US government was it used?
   UNIVAC, U. S. Bureau of the Census, 1951

8. What does FOSDIC stand for? How is FOSDIC used?
   Film Optical Sensing Device for Input to Computers
   Used to tabulate 1980 census

9. What is one way that the National Weather Service uses computers?
   produce "models" of the atmosphere to predict weather

Page 23

10. The system for moving credit electronically from one account to another is called electronic fund transfer ______ (EFT). (Paragraph 3)

Page 24

11. List three advantages given if all businesses used EFT systems for paying employees. (Paragraph 1)
    1. no cost to preparing and issuing paychecks
    2. no longer have to wait in line to deposit checks
    3. save bank cost of processing checks

12. To check a customer out at the cash register, you just pull the product over this piece of glass. The price is automatically recorded on a paper receipt. (Paragraph 3)

Page 25

13. The "piece of glass" Greg is talking about is actually an optical mark ______ reader or scanner. (Paragraph 1)

14. You have probably noticed those black ______bars______ on food products you buy at the grocery store. The bars are part of a code known as the ______Universal______ ______Product______ Code. (Paragraph 1)

15. The ability of the optical mark reader to read the bar codes is the result of a special technology called ______optical______ ______character______ ______recognition______. (OCR) (Paragraph 3)

16. Today many large department stores and other retail establishments use ______wands______ to record information about your ______purchases______. (Paragraph 3)

17. The OCR machines do three things for a supermarket. List them. (Beyond helping clerks do their jobs faster and easier.)
    1. keeps track of the store's inventory
    2. automatically reorders items in low supply
    3. provides a printout of each item sold at the store

Page 26

18. Most major banks today have ______automatic______ teller machines. (ATMs) (Paragraph 2)

19. Name three services that the ATM can provide you. (Paragraph 3)
    1. get a balance of your savings or checking account
    2. transfer funds from one account to another
    3. make payments on major credit cards

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN CHAPTER 2 AND RECORD YOUR ANSWERS HERE.

20. What do the letters EFT stand for? How is this system used?
    electronic fund transfer - moves credit electronically

21. What technology makes it possible for a device to read information from bar codes or merchandise sales tags?
    optical character recognition (OCR)

22. What is an ATM and where would you find one?
    Automatic Teller Machine - at a bank

Page 28

23. The use of the computer to design products is called computer assisted design (CAD). (Paragraph 2)

24. The use of a computer to manufacture products is known as computer -assisted manufacture (CAM). (Paragraph 2)

25. CAD/CAM technology is used to design and manufacture implants or parts to replace hips, knees, and elbows. (Paragraph 3)

26. CAD/CAM aids in the design and manufacture of everything from airplanes to farm equipment to children's toys. (Paragraph 6)

Page 29

27. Today, more and more factories are using robots to do work that human beings once did. (Paragraph 4)

28. The use of robots for certain jobs has a lot of advantages. List 4 of them from Paragraph 6.
    1. take over dangerous jobs
    2. work 50 times faster at certain types of jobs
    3. reduce production costs
    4. reprogram the robot to do a new task

29. Some people feel that the widespread use of robots is a bad idea because it will put too many people out of work. (Paragraph 7)

Page 30

30. The robots themselves will create four new kinds of jobs. List them from Paragraph 1.
    1. repair the robots
    2. write programs to give directions to the robots
    3. manufacture robots
    4. sell robots

31. From Paragraphs 4 & 5 list three items a computer printout can tell a farmer about his cows.
    1. see how much a cow ate
    2. check weight of milk the cow is producing
    3. computerized feed system

Page 31

32. List three other ways computers are at work in our lives. (Paragraph 3)
    1. newspapers and magazines use computers to write/edit stories
    2. librarians use computers for electronic card catalogs
    3. fire stations pinpoint exact locations of fires

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 28-31 AND RECORD YOUR ANSWERS HERE.

33. What does CAD/CAM stand for? Computer-Assisted Design and Computer Assisted Manufacture

34. Explain two advantages of using industrial robots. Why do some people think the use of robots is a bad idea?
    a. can work up to 50 times faster cheaper to operate
    b. easy to reprogram to a new task
    Robots do put people out of work

35. Explain one way that computers can be used on a farm.
    computerized feed station

COMPUTERS IN OUR LIVES
ANSWER KEY

Page 2-9
Sample Test
COMPUTER USES

1.	I	M
2.	B	G
3.	K	F
4.	C	F
5.	L	O
6.	E	N
7.	H	P
8.	D	J

Page 2-10
Sample Test
COMPUTER APPLICATIONS

1. Home
2. School
3. Business
4. Business
5. Home
6. School
7. Home
8. Home
9. School
10. Business

Page 2-12
Worksheet
COMPUTERS IN GOVERNMENT

1. False
2. False
3. False
4. True
5. True

Page 2-13
Worksheet
I CAN DO THAT!

1.
2. X
3.
4. X
5. X
6.
7 X
8.
9.
10.

Page 2-14
Worksheet
USING THE COMPUTER AT HOME, AT SCHOOL AND AT WORK

1. B
2. A
3. B (could be all of A-D)
4. C
5. A
6. C

Page 2-15
Worksheet
WHERE AM I?
(answers can vary)

Home:
On the desk, in the kitchen, to send letters, to play games in the den, to write a report, to print a greeting card, to keep a list of friends

School:
On the desk, in the library/media center, to keep track of grades, to learn new things, in the principals office, to checkout books, to write a report, to print a list of students, next to the teacher's desk

Business:
On the desk, to know how many to order, to write letters to customers, to print a bill, to send letters, to see how many have been sold, to write a report, to write a check, to print a greeting card,

Page 2-16
Worksheet
COMPUTER EVERYWHERE

answers will vary

Page 2-17
Worksheet
HOME, SCHOOL OR BUSINESS?

1. School
2. Business
3. Home
4. Business
5. School
6. Home

Page 2-18
Worksheet
WHERE AM I? AT HOME, AT SCHOOL OR AT A BUSINESS

1. School
2. School
3. School
4. Business
5. Home
6. Home
7. Home
8. Business

COMPUTER HARDWARE
ANSWER KEY

Page 4-8
Sample Test
PARTS OF THE COMPUTER AND THEIR FUNCTIONS

1. B
2. C
3. D
4. E
5. F
6. D

1. Output
2. Storage
3. Input
4. Input
5. Input
6. output
7. Input
8. I/O
9. output
10. I/O
11. input
12. input
13. storage
14. I/O, storage
15. input
16. I/O

Page 4-9
Sample Test
IDENTIFYING INPUT AND OUTPUT DEVICES

1. Printer
2. Keyboard
3. Disk drive
4. Joystick
5. Graphics Tablet
6. Monitor

7. Speaker Box
8. Modem
9. Mouse
10. Tape Recorder
11. Light Pen
12. Voice Recognition

Page 2-21
Worksheet
JOBS! JOBS! JOBS!
(answers will vary)

Lawyer: Search LEXIS for information, appointment calendar, bill clients,
Astronaut: Monitor heart beat, keep climate control in space vehicle, guide space vehicle
Postal Carrier: tabulate costs of stamp purchases at counter, sort and cancel mail
Police Officer: license tag check, 911 shows police origin of phone call, lost child network
Teacher: grades, attendance, instruction
Doctor: bill clients, search medlabs for research, appointment calendar
Basketball player: statistics on self and opponents
Hotel desk clerk: reservations, room assignments, bills
Banker: daily transactions, transfer money, cancel checks
Cashier: inventory, tabulate cost and sales tax, charge card varification
Accountant: tabulate income/expenses, income tax information, project costs
Author: word processing edit features
Auto mechanic: order parts, trouble shoot newer case, bill customers
Artists: drawing programs, inventory of products

Worksheet

COMPUTERS IN OUR DAILY LIVES

You are awakened by your digital alarm clock at 7:00 a.m. As you walk into the kitchen your mother is taking a bowl of oatmeal out of the microwave oven for you to eat.

After breakfast your mother is going to drive you to school. After she starts the engine, you hear a voice reminding you to buckle your seat belt.

In history class, Mrs. Jones passes out a test and tells you that she typed it on her word processor. Since the test is multiple choice, she has you bubble in the answer on a separate answer sheet so that she can machine score them. This way she can have the test results quickly.

Your mother picks you up after school. On the way home you make several stops. The first stop is at the automatic teller machine where your mother uses her bank card to withdraw some money. The second stop is at the grocery store to buy some food for dinner. The cashier at the check-out line runs each item over the scanner to quickly get the total you owe. The final stop is home.

GETTING THE COMPUTER TO DO WHAT YOU WANT 3-3
TEXTBOOK WORKSHEET

NAME: ______________________ **PERIOD:** __________

CHAPTER 3

Directions: This worksheet accompanies Chapter 3 - Getting the Computer to do What You Want, in your Textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Begin work on **Page 36**

1. Before a computer can do anything, it must start with a program. (Paragraph 2)

2. A program is a set of instructions that tells the computer what to do and how to do it. (Paragraph 2)

3. There are two ways you can get a computer to do what you want. From Paragraphs 3 and 4 explain how.

    1. write your own program
    2. buy a program written by a professional programmer

Page 37

4. The most widely used language for microcomputers is called BASIC. That stands for Beginners All-purpose Symbolic Instruction Code. (Paragraph 3)

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 36-39 AND RECORD YOUR ANSWER HERE.

Page 39

6. What do you call a set of instructions that tells a computer what to do and how to do it? program

7. What is the name of the most widely used programming language for microcomputers? BASIC

8. Why would a computer that knows BASIC not know what to do if you typed the following statement into it:

10 PRINT WHAT IS YOUR NAME?

You need quote marks around "What is your name?"

Page 42

9. Today, there are many programs you can buy that will help you do many things. Name the four listed in Paragraph 2.
   1. word processing - writing easier
   2. telecommunications - one computer talking to another
   3. electronic filing system
   4. study for different types of tests

10. A word processing program, turns the computer into a very sophisticated, "smart" typewriter. (Paragraph 7)

Page 43

11. A word processing program can insert a word into the middle of a sentence. (Paragraph 2)

Page 44

12. The ability of two computers to send information back and forth that is made possible by a special device called a modem. (Paragraph 4)

Page 45

13. A modem is just one example of how computers can talk to each other. But, today computer-users can subscribe to many large data banks, which are a large computer systems that store vast amounts of information. (Paragraph 3)

Page 47

14. Today, there are hundreds of educational programs that are helping students with many different subjects. Many of the programs are in a form that's called drill and practice, which review your studies in school. (Paragraph 4)

15. There are other programs that are know as ____simulations____, which simulate or imitate real-life or historical events. (Paragraph 5)

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 42-47 AND RECORD YOUR ANSWERS HERE.

16. What kind of computer program would you use to do the following tasks:
    a. Write a book report? ____word processor____
    b. Organize information about your stamp collection? ____data base____
    c. Edit a school newspaper? ____word processor____
    d. Get information about an airline schedule? ____data base____
    e. Observe the results of pollution on plant and animal life? ____simulation____

17. Which of the following is an example of a data base: (Circle one)
    a. Your address book
    b. Your collection of stereo records

18. What kind of computer program would you likely use to review and test yourself on algebra problems?

    drill and practice

GETTING THE COMPUTER TO DO WHAT YOU WANT
ANSWER KEY

Page 3-6
Sample Test
LANGUAGES

1. D
2. A
3. Logo, BASIC , FORTRAN
4. COBOL, ADA, C, PASCAL

Page 3-12
Worksheet
ADVANTAGES AND DISADVANTAGES OF STORING COMPUTER INFORMATION
(answers can vary)

Disk
hard copy (print)
hard disk drive
cassette tapes

	Advantage	**Disadvantage**
Disk	fast retrieval many programs on one disk	disk is easily damaged if not taken care of
Tapes	inexpensive	programs are stored sequentially so hard to find, slow
ROM	Sturdy, durable	Cannot save or write to ROM cartridge
Hardcopy	can "read program and scan to change	must type back in to RAM if not saved to disk or cassette

Page 3-13
Worksheet
NAME IT

ROM Cartridge
disk drive
Cassette tape
printer
3.5 inch disk
5.25 inch disk
paper print out
cassette player

disk drive, printer, cassette player

Page 3-14
Worksheet
WHERE SHOULD I KEEP IT?

1. In an envelope
2. in a drawer (in a safe)
3. in the bank (in a drawer)
4. on paper
5. in a drawer
6. in the closet
7. on a disk
8. on a cassette/on paper

Page 3-14 continued
9. on paper
10. on a disk

Page 3-15 (Answers will vary)
Worksheet
COMPUTER LANGUAGES

BASIC - Beginners All-Purpose Symbolic Purpose Symbolic
FORTRAN - Formula Translator
LOGO - Turtle graphics
Pascal - named after a mathematician
Cobol - Common Business Language

Page 3-16 (answers will vary)
Worksheet
LIKENESSES/DIFFERENCES

Quarters, Dime, Penny

Likeness: All have two printed sides, All say United States of America, All say In God We Trust, all print their value, year minted
Difference: made out of different metal, different picture of a president, different quotes, some have mint codes some do not, different designs on back.

Languages
Likeness: use line numbers, in sequence, speak to the computers in codes
Difference: different command statements, different purpose,

Page 3-19
Worksheet
SECRET MESSAGES

COMPUTERS
MUST
HAVE
INSTRUCTIONS
IN
ORDER
TO
DO
ANYTHING
THESE
INSTRUCTIONS
ARE
WRITTEN
IN
COMPUTER
LANGUAGES.

COMPUTER·HARDWARE
TEXTBOOK WORKSHEET

NAME: ______________________________ **PERIOD:** __________

CHAPTER 4

Directions: This worksheet accompanies Chapter 4 - Computer Hardware, in your textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Fill in the missing information or words according to the specified pages and paragraphs.

Begin on **Page 54**

1. The first process step that every computer goes through is called ___input___, this is when ___programs___ or other information have to be entered into the computer. (Paragraph 1)

2. The second step, when the programs's instructions are carried out, is called ___processing___. (Paragraph 1)

3. The last step is called the ___output___, which shows you the results of the work the computer has done. (Paragraph 1)

4. One type of input unit that gets information into a microcomputer is a ___typewriter___ - like keyboard. (Paragraph 3)

5. Some microcomputers use a ___tape___ -cassette player as another type of input device. You can also use a powerful input unit called a ___disk___ drive, which stores programs on a FLOPPY disk. (Paragraph 5)

Page 55

6. A floppy disk looks like a square 45 RPM ___record___. (Paragraph 1)

7. Inside the protective case is a ___round___ piece of ___magnetic___ plastic. (Paragraph 1)

8. The disk drive, which is connected to the computer "___reads___" the program on the floppy disk, and ___sends___ it into the computer's memory. (Paragraph 2)

9. A disk drive can "___load___" programs into your computer much ___faster___ than a ___cassette___ recorder. (Paragraph 3)

10. Another advantage of a floppy disk is that it can ___store___ many more ___programs___ and much more ___information___ than a cassette tape can. (Paragraph 5)

Page 56 How to "Talk to" a Computer

11. A ___touch___ -sensitive ___screen___ directs the computer to carry out commands by your finger.

12. The number of words a ___voice___ recognition device can understand is ___limited___.

Page 57 How to "Talk to" a Computer

13. An input device that looks like a small chalkboard is called a ___graphics___ ___tablet___.

14. ___light___ pens are often used to draw ___designs___ for new products.

15. The "___mouse___" is a box that sits on the table, as you move it you move the CURSOR on the monitor.

16. A ___joy___ stick is often used for playing ___games___ on home computers.

Page 58

17. The ___central___ ___processing___ ___unit___ (CPU) is the most ___important___ part of any computer system. (Paragraph 1)

18. The CPU carries out the instructions of the program that has been loaded into a computer's memory. (Paragraph 1)

19. Think of the CPU as the "brain" of the system. (Paragraph 1)

20. The most common output unit for microcomputer is a TV -like monitor or CRT, which is short for Cathode Ray Tube. (Paragraph 2)

Page 59

21. Your computer and printer, another OUTPUT device, work together to give you what is called a hard copy or PRINTOUT of reports that you may type into the system. (Paragraph 2)

22. One of the most important output devices, is your disk drive, which is also an input device. (Paragraph 3)

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 54-59 AND RECORD YOUR ANSWER HERE.

23. Name two different computer input units, other than a keyboard. What are some advantages and disadvantages of each?

DEVICE	ADVANTAGE	DISADVANTAGE
joystick	play games	not for all programs
mouse	move cursor	software-specific

light pen - touch tablet - touch-sensitive screen - voice rec.

24. What is another term for MONITOR? CRT - Cathode Ray Tube

25. Name the output device that shows on paper what the processing unit has done. printer

Page 61 **4-7a**

HOW A COMPUTER PROCESSES INFORMATION

26. THE CENTRAL PROCESSING UNIT--the "brain" of a computer is where a computer does all of its COMPLICATED work. (Paragraph 4)

27. Inside a microcomputer, the CPU operates on a single chip" of silicon, called a microprocessor. (Paragraph 4)

28. The MICROPROCESSOR has two MAIN parts: the arithmetic / logic unit and the control unit. (Paragraph 4)

29. There are two things every computer of any size can do extremely well. What are the two things? math operations & logical decisions ____________ (Paragraph 5 & 6)

30. An average MICROCOMPUTER can perform about 500,000 math or logic operations every second. (Paragraph 7)

31. Larger computers can perform two million or more operations per second. (Paragraph 7)

32. All of the work that the ARITHMETIC/LOGIC UNIT (A/LU) does is directed by the control unit. (Paragraph 8)

33. The CONTROL UNIT directs the flow of information into and out of the computer; it controls the operation of the A/LU; and it sends programs and other information to the computer's MEMORY. (Paragraph 8)

Page 62

34. The computer understands a special number code, which is called the built-in machine language. (Paragraph 2)

35. There are some things that a computer never forgets. (Paragraph 5)

36. But there are other things that the computer will remember - only as long as the computer itself is turned on. (Paragraph 5)

37. READ-ONLY MEMORY (ROM) is the BUILT-IN machine language that the computer really understands. (Paragraph 8)

38. RANDOM-ACCESS MEMORY (RAM) is where programs and information that you are currently using are stored. (Paragraph 9)

Page 64

39. There are two things to remember about RAM. The information you put in a computer's RANDOM-ACCESS MEMORY will stay there only as long as the computer is turned on. The other thing is that the amount of RANDOM-ACCESS MEMORY that your computer has is limited. (Paragraph 3)

Page 65

40. When you fill up all the space in RAM, you need a way to save that information outside the computer. You need what is called SECONDARY or auxiliary storage. (Paragraph 3)

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 61-65 AND RECORD YOUR ANSWER HERE.

41. What do you call the part of the CPU that
    (a) directs everything the computer does? control unit
    (b) performs computations and makes decisions? arithmetic/logic unit

42. Where does the computer store
    (a) instructions that tell it how to add and subtract?
    arithmetic/logic unit
    (b) programs that you put into RAM

43. What happens to information in RAM when you turn the computer off?
it is gone - forgotten

Page 65 **4-7c**

44. Whenever you fill up all the memory space in RAM, you can store your work outside the computer in one of two ways--either on cassette tape or magnetic disks. (Paragraph 4)

45. An INPUT unit called a MAGNETIC tape drive ________ is used to enter information from a reel of tape into the computer's memory. (Paragraph 4)

Page 66

46. HARD DISKS are made from metal, which are permanently encased in a hard disk drive. (Paragraph 2)

47. Larger computer systems often use what is known as a disk pack ________, which look like a stack of 33 1/3 RPM records. (Paragraph 2)

Page 67

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 65-67 AND RECORD YOUR ANSWER HERE.

48. What do you call storage in which information is kept outside of a computer? auxiliary or secondary

49. What do you call a stack of disks used by some large computer systems? disk pack

50. What is one advantage of using a disk for storage? so you don't run out of RAM One disadvantage? disk is vunerable to heat, magnets etc.

Page 4-10
Sample Test
CHECKING YOUR KNOWLEDGE ON CARE AND HANDLING OF HARDWARE

1. T
2. F
3. T
4. F
5. F

6. F
7. F
8. T
9. T
10. T

Page 4-11
Sample Test
COMPUTER TERMS

1. C
2. A
3. E
4. D
5. B

6. I
7. G
8. I
9. H

Page 4-19
Worksheet
ADVANTAGES AND DISADVANTAGES OF COMPUTERS

	Advantage	Disadvantage
1.	X	
2.	X	
3.	X	
4.	X	
5.	X	
6.		X
7.		X
8.	X	
9.		X
10.		X

Page 4-20
Worksheet
EXTERNAL STORAGE

1. hard disk
2. floppy disk
3. cassette tape
4. ROM cartridge
5. hard copy

Page 4-20 continued

6. tape recorder
7. floppy disk drive
8. hard disk drive
9. reel to reel
10. chip

Page 4-21
Worksheet
WAY TO GO!

input
input/output
input
output
output

Page 4-22
Worksheet
BELIEVE IT OR NOT?

1. Yes
2. No
3. No
4. Yes
5. No
6. Yes
7. Yes
8. No
9. No
10. No

Page 4-23
Worksheet
WHAT IS IT?

1. input
2. storage
3. process
4. output
5. storage
6. process
7. output
8. input
9. input
10. storage
11. output
12. process

Page 4-24
Worksheet
MISSING INPUT--MISSING OUTPUT

get product from machine (output)
put clothes in washing (input)
take out of dryer (output)
Cindi makes lunch (input)
Plant Seed (input)

Page 4-25
Worksheet
INPUT OR OUTPUT?

input
input input\output
output output
input input input

Page 4-26
Worksheet
IS IT GOOD FOR YOUR COMPUTER?

Good	Not Good
Putting a cover on it	Dust
Dusting it	Chalkdust
Having clean hands	a rainstorm
Typing gently	smoking near it
Keeping it cool	Eating near it
Turning it on correctly	dropping it
	putting a plant on it
	touching the screen

Page 4-27
Worksheet
SYSTEM

Control
input Arithmetic output
memory
CPU

Page 4-28
Worksheet
WHICH IS WHICH?

1. monitor
2. keyboard
3. graphics tablet
4. mouse
5. joystick
6. printer
7. disk drive
8. cassette player
9. light pen

COMPUTER SOFTWARE
TEXTBOOK WORKSHEET

NAME: ______________________________ **PERIOD:** __________

Chapter 5

Directions: This worksheet accompanies Chapter 5 - Computer Software, in your textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Fill in the missing information or words according to the specified pages and paragraphs.

Begin on **Page 72**

1. A simulation imitates real-life events. (Paragraph 1)
2. You know that today's computers are not very smart at all. They can not do anything by themselves. They have to be told what to do and how to do it. (Paragraph 6)
3. Computers have to be given very specific instructions called software. (Paragraph 6)
4. Each particular set of instruction is called a program (Paragraph 6)

Page 73

5. Machine language, is the only language that any computer really understands. (Paragraph 1)
6. When you buy a microcomputer with a disk drive, you will also get a special program called the disk operating system (DOS). (Paragraph 2)

7. DOS directs and manages the operation of the different parts of a computer system, such as the monitor, the disk drives, and the printer. (Paragraph 3)

8. Before you use any new disk, you need to prepare the disk to accept the program or information you what to store on it, by doing what to the disk? format or initialize (Paragraph 5)

Page 74

9. Another word for FORMATTING is initializing a disk. (Paragraph 1)

10. Another word making a copy of your disk is a .... backup (Paragraph 2)

11. Why would you want to REMOVE A PROGRAM FROM A DISK? you no longer want the program and it makes more room on the disk to store other programs you do want. (Paragraph 3)

12. To "load" a program from the disk into the computer itself, is sometimes called "booting" or "powering up the system." (Paragraph 4)

Page 76

13. While system software consists of programs your computer uses, application software, which are programs that you BUY, consists of programs that you use. (Paragraph 1)

14. Three most common means for storing programs or information on large computer systems are: (Paragraph 4)
    1. large reels of tape
    2. disk - disk pack
    3. hard disk

15. The most common storage device for MICROCOMPUTERS is the floppy disk, which is usually 5¼ or 5.25/3½ or 3.5 inches in diameter. (Paragraph 5)

430

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 72-76 AND RECORD YOUR ANSWERS HERE.

16. What is the name given to
    a. computer instructions in general? software
    b. a particular set of computer instructions? program

17. What is the name for programs that control how a computer works.
    system

    List two examples of such programs.
    a. disk operating system (DOS)
    b. utility programs (format, backup etc.)

18. What type of application software would teach you how to play chess?
    simulation

19. List the 15 things you can do with a computer found on Pages 77 to 79.

    1. pilot an airplane
    2. compete in the summer Olympics (game simulation)
    3. design bar graphs, pie charts, and line graphs
    4. plan a nutritious diet
    5. identify stars in the sky
    6. check your spelling
    7. become a graphic artist
    8. test your driving knowledge
    9. learn a foreign language
    10. improve your typing skills
    11. keep track of sports statistics
    12. write a rock and roll song
    13. save energy
    14. make movies
    15. learn to write your own programs

Page 80

20. The jacket protecting the FLOPPY DISK protects the disk from fingerprints, dust, and dirt--things that can destroy the information stored on the disk. (Paragraph 5)

21. In the center of the disk is a hole, called the drive spindle hole. (Paragraph 5)

22. As the disk spins inside the DISK DRIVE, the "head" of the disk (sometimes called the "read / write head") touches the floppy disk through this opening in the floppy disk's protective covering. (Paragraph 6)

23. It is through this opening that information is written onto the disk. (Paragraph 6)

Page 80

24. The WRITE / protect NOTCH can be covered with special tape, so that you cannot store any more programs or information on the disk. (Paragraph 7)

25. When a disk is formatted, its surface is first divided into circular tracks. (Paragraph 10 continues onto Page 81 - first paragraph)

Page 81

26. Each tract is further divided into separate sections called sectors. (Paragraph 2)

27. From **Page 82**'s diagram, list the 8 rules that are given for the proper care of floppy disks.
    1. Don't put disk next to magnetic sources such as TV.
    2. Don't leave disk in sun or out in the cold.
    3. Don't take the disk out of the disk drive when red lightis on.
    4. Don't fold or bend a disk.
    5. Always hold a disk by its label.
    6. Always keep disk in its paper jacket.
    7. Always insert disk into disk drive gently.
    8. Always use a felt-tip pen to label a disk.

Page 83

28. When loading programs into your computer, it is important to understand that with some computers you INSERT the disk into the disk drive first, and then TURN on the power switch. (Paragraph 1)

29. With other computer system, you need to TURN on the computer first, then insert the disk into the disk drive and press a special key called the reset key. (Paragraph 1)

Page 84

30. There are two ways to tell that a program is being loaded from a floppy disk into your computer. List them. (Paragraph 2)
   a. soft humming or whirring sound
   b. tiny red light comes on

31. NEVER take the disk out of the disk drive when the red light is on. (Paragraph 2)

32. When a program is loaded, and the humming sound stops with the red light going out, does this mean the program has been erased, or removed, from the disk? (Circle one) YES [✓ NO] (Paragraph 3)

33. Once the program is loaded, can you usually take the disk out of the disk drive and put it away in a safe place? (Circle one) [✓ YES] NO (Paragraph 3)

34. From Page 84, list the four steps for loading a diskette.
   a. Red light off. Open or lift door of disk drive.
   b. Take disk out of jacket. Thumb on label.
   c. Gently slide disk into disk drive with label face up.
   d. Close the disk drive door.

Page 85

35. What will happen to the program if you have taken the disk out of the computer and turned the computer off? program is erased from the computer's memory (RAM) (Paragraph 1)

36. After you have loaded a program into the computer, you may then see a list of the different parts or " options " of the program that is called a menu (Define the answer: Menu - a list of options of the program.
(Paragraph 3)

37. Every disk has another kind of table of contents called a directory or CATALOG. (Define the answer: Directory - a list of everything that is on a disk.

(Paragraph 4)

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 80-85 AND RECORD YOUR ANSWERS HERE.

38. What are these parts of a floppy disk for?
    a. drive spindle hole hole in the center of disk so it spins
    b. head access opening head of disk drive touches disk here toread/writ
    c. write/protect notch prevents writing information/programs to disk

39. What is the difference between a TRACK and a SECTOR on a floppy disk? tracks go round / sectors divide disk like a pie both are stored on the disk when it is formatted

40. How can you tell when a program is being loaded into the computer from a disk? hear a humming or whirring sound, red light is on

COMPUTER SOFTWARE
ANSWER KEY

Page 5-13
Sampe Test
SOFTWARE PROGRAMS

1. Set of instructions written in a code language that the computer can understand that will make the computer complete a set of actions.
2. Cobol, Logo, BASIC, Fortran, Pascal, Ada, C
3. floppy disk, cassette tape, print-hard copy, hard disk drive
4. System software

5. Paper/manual (external)
   on disk (internal)

Page 5-14
Sample Test
CHECKING YOUR KNOWLEDGE ON CARE AND HANDLING OF SOFTWARE

1. F
2. F
3. T
4. F
5. F

6. F
7. T
8. T
9. F
10. T

Page 5-15
Sample Test
COMPUTER SOFTWARE

1. True
2. True
3. True
4. True
5. False
6. True
7. True
8. True
9. True
10. True

Page 5-16
Sample Test
LABEL THE PARTS OF A 5.25" DISK

label
Write-protect notch
drive spindle hole
index hold
head access slot
plastic protective cover
magnetic disk inside

Page 5-21
Study Sheet
BACKUP COPY AND COPYRIGHT

F
T
F
T
F

Page 5-23
Worksheet
HARDWARE OR SOFTWARE?

1. S
2. H
3. H
4. S
5. S
6. S
7. S
8. S
9. H
10. H

Page 5-24
Worksheet
IMPORTANT INSTRUCTIONS

1. Yes
2. No
3. No
4. Yes
5. Yes
6. Yes
7. No
8. No
9. Yes

Page 5-25
Worksheet
OS DOES IT

1. Yes
2. No
3. Yes
4. No
5. Yes
6. No
7. Yes
8. No
9. Yes
10. Yes
11. Yes
12. No

Answer may vary.

Page 5-26
Worksheet
COMPATIBILITY CONCERNS

IBM
1. Yes
2. No
3. Yes
4. No
5. Yes
6. No

Apple
1. No
2. Yes
3. No
4. Yes
5. No
6. Yes
7. Yes

Page 5-27
Worksheet
PICK ONE!

answers vary
drills basic math
computation

helps you to draw

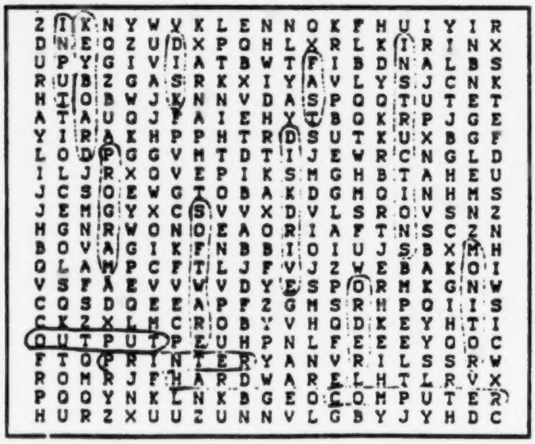
shows magic tricks

Page 5-28
Worksheet
READ ALL ABOUT IT

1. Robotic computer
2. over 50
3. yes, 3 sizes
4. 8 1/2 x 11"
5. 8 1/2 x 11"
6. greeting card
7. no
8. magic printing machine
9. Yes you have so many options to choose from

Page 5-29
Work Sheet
IT'S IN THERE SOMEWHERE

fast
program
keyboard
instructions
monitor
software
computer
output
disk
diskdrive
order
printer
hardware
input



Z	I	K	N	Y	W	V	K	L	E	N	N	O	K	F	H	U	I	Y	I	R
D	N	E	Q	Z	U	D	X	P	O	H	L	X	R	L	K	I	R	I	N	X
U	P	Y	G	I	V	I	A	T	B	W	T	F	I	B	D	N	A	L	B	S
R	U	B	Z	G	A	S	R	K	X	I	Y	A	V	L	Y	S	J	C	N	K
H	I	O	B	W	J	K	N	N	V	D	A	S	P	O	O	T	U	T	E	T
A	T	A	U	Q	J	F	A	I	E	H	X	T	B	O	K	R	P	J	G	E
Y	I	R	A	K	H	P	P	H	T	R	D	S	U	T	K	U	X	B	G	F
L	O	D	P	G	G	V	M	T	D	T	I	J	E	W	R	C	N	G	L	D
I	L	J	R	X	O	V	E	P	I	K	S	M	G	H	B	T	A	H	E	U
J	C	S	O	E	W	G	T	O	B	A	K	D	G	M	O	I	N	H	M	S
J	E	M	G	Y	X	C	S	V	V	X	D	V	L	S	R	O	V	S	N	Z
H	G	N	R	W	O	N	O	E	A	O	R	I	A	F	T	N	S	C	Z	N
B	O	V	A	G	I	K	F	N	B	B	I	O	I	U	J	S	B	X	M	H
O	L	A	M	P	C	F	T	L	J	F	V	J	Z	W	E	B	A	K	O	I
V	S	F	A	E	V	V	W	V	D	Y	E	S	P	O	R	M	K	G	N	W
C	O	S	D	Q	E	E	A	P	F	Z	G	M	S	R	H	P	O	I	I	S
C	K	Z	X	L	M	C	R	O	B	Y	V	H	O	D	K	E	Y	H	T	I
O	U	T	P	U	T	P	E	U	H	P	N	L	F	E	E	E	Y	O	O	C
F	T	O	P	R	I	N	T	E	R	Y	A	N	V	R	I	L	S	S	R	W
R	O	M	R	J	F	H	A	R	D	W	A	R	E	L	H	T	L	R	V	X
P	O	O	Y	N	K	L	N	K	B	G	E	O	C	O	M	P	U	T	E	R
H	U	R	Z	X	U	U	Z	U	N	N	V	L	G	B	Y	J	Y	H	D	C

Page 5-30
Work Sheet
IT'S IN THE DOCUMENTATION!

(answers could vary)

X
X
X
X
X
X
X

X
X
X

NAME: ________________________ **PERIOD:** __________

CHAPTER 6

Directions: This worksheet accompanies Chapter 6 - Solving Problems with Computers, in your Textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Begin work on **Page 92**

1. No matter what kind of problem you want to solve....there are two things you need to do first. (Paragraph 1)

2. You must define the problem clearly. (Paragraph 1)

3. Then, you need to develop a plan for solving the problem. (Paragraph.1)

4. To solve either problem, you would begin by stating exactly what the problem is. (Paragraph 3)

5. Before you plan a solution to a problem, you need to think about these questions: What do you want the outcome of the problem to be? What things or information will you need to help you reach that goal? (Paragraph 4)

Page 92

6. List the three questions you need to ask to define and outline a problem. (Paragraph 1)
   a. What is the problem?
   b. What results do we want?
   c. What are some of the things needed to help solve the problem?

7. What is a step-by-step plan for solving a problem called?
   algorithm (Paragraph 5)

Page 93

8. The algorithm or plan you develop should be logical. This is a way of doing something that makes sense. (Paragraph 6)

Page 94

9. When you write an algorithm, it should be as complete and detailed as possible. (Paragraph 1)

10. Once you develop a logical plan or algorithm, it may help to draw a picture of it. This is called a flowchart. (Paragraph 3)

Page 95

11. A flowchart is like a map. It shows both the steps a computer will follow to solve a problem and the order in which the computer will follow these steps. (Paragraph 1)

12. A flowchart is made up of special shapes or symbols. (Paragraph 2)

13. Arrows point from one shape to the next to show how a solution will move from one step to another. (Paragraph 2)

14. An oval is used to show where the program begins and ends. (Paragraph 3)

15. A parallelogram is used to show that something is to input or output. (Paragraph 4)

16. A rectangle is used for an instruction to "process" or act on something. (Paragraph 5)

17. A diamond is used when there is a decision to be made. (Paragraph 6)

18. The flowchart shows which instruction involve input or output. It also identifies instructions for processing something and for making decisions. (Paragraph 3)

Page 97

19. From the flowchart, you should be able to answer four questions. List them. (Paragraph 2)
    a. Which steps in your solution are input?
    b. Which steps shows a process?
    c. What would be the computer's output?
    d. At what step is a decision made?

20. A program is a set of instructions for the computer. (Paragraph 3)

21. .....a program must be in a form or "language" that a computer can understand. (Paragraph 3)

22. ....a program must first be written or coded in a computer- programming language. (Paragraph 3)

23. A person who codes a program is called a programmer. (Paragraph 3)

FIND THE ANSWERS TO THE **CHECKPOINT QUESTIONS** WITHIN PAGES 92-97 AND RECORD YOUR ANSWERS HERE.

24. What is the name for a "map" that shows the steps for solving a problem? flowchart

25. What symbol is used to show that
    a. a decision must be made in a program? diamond

    b. information is to be input or output? parallelogram

26. What are the first two steps in solving a problem?
    a. Define the problem
    b. Develop a plan for solving the problem

27. What word means "a step-by-step plan for solving a problem?" algorithm

SOLVING PROBLEMS WITH COMPUTERS
ANSWER SHEETS

Page 6-8
Sample Test
HOW DO I TACKLE A PROBLEM?

1
6
3
4
2
5

Page 6-9
Sample Test
FLOWCHARTING

1. oval
2. diamond
3. rectangle
4. rectangle
5. rectangle
6. rectangle
7. oval
8. diamond
9. diamond

Page 6-10
Sample Test
STEPS IN PROBLEM SOLVING

1. Not doing well in Spanish
2. Study
   Go to Media Center
   Use Computer program
   Study at Home
3. He studies and practices
   on the computer
4. He does it again
5. Yes, he gets an A on
   the test
6. He writes Joan to
   Tell her about the
   computer program

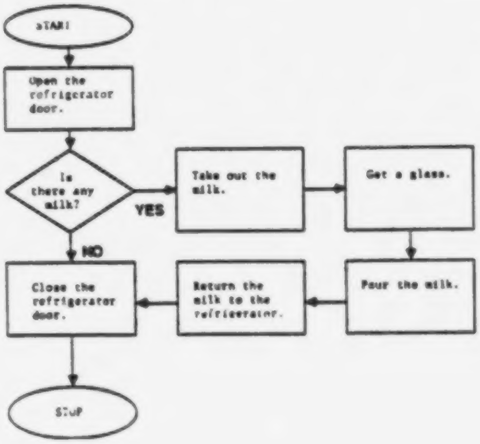
Page 6-11
Sample Test

THAT COULD BE THE PROBLEM

1. monitor isn't turned on
   monitor is unplugged
2. tire needs more air
   tire has a hole in it
3. store is out of the magazine
   mary doesn't have enough money
4. Barbara doesn't hear her alarm clock
5. Anna doesn't have a printer.
   Anna doesn't know how to print her report
   The printer doesn't have any paper

Page 6-14
Worksheet

FLOWCHART EXERCISE


START
Open the refrigerator door.
Is there any milk?
YES
Take out the milk.
Get a glass.
NO
Pour the milk.
Return the milk to the refrigerator.
Close the refrigerator door.
STOP

Page 6-16
Worksheet

DEFINING THE PROBLEM

1. You don't have enough money.
   Need $2.00
2. You must choose a topic,
   do research and write report.
3. No key. Can't get in house.
4. Need a ride to the
   movies Friday night.
5. Get a ride to school.

Page 6-17
Worksheet
FLOWCHART SYMBOLS

1. flow chart
2. Diamond
3. Oval
4. Parrallelogram
5. Rectangle

Page 6-18
Worksheet
WHAT A PAIR!

1. I
2. J
3. D
4. E
5. B
6. C
7. G
8. A
9. F
10. H

The instructions given to a computer to tell it what to do are called software or program.
Software and program

Page 6-19
Worksheet
DON'T TELL ME THAT

1. Yes (He is wearing his blue shirt.)
2. No (She likes candy and she likes to swim.)
3. No (She will probably eat a salad.)
4. Yes (he is wearing
   see worksheet

Page 6-20
Worksheet
WHAT'S MISSING?

1. How many cans the cat eats each day, How much cat food she has already eaten?
2. What time they are to meet, How long it takes to get to the theater?
3. The price of the card, how much money she has?
4. How many are in the bag, how many can he eats?
5. How long the report is, How much paper she has?

Page 6-21
Worksheet
THAT'S THE BEST WAY

1. b
c
d
a
Find out the price of the gift, the paper, and the card
2. b
c
d
a
Wash clothes
3. a
b
e
c
d
Transplant from smaller to larger pot
4. a
c
b
d
e
Write a report
5. e
b
c
d
a
Plan a vactaion trip

Page 6-22
Worksheet
IT WON'T WORK THAT WAY!

D
E
A
C
B

D
E
A
C
B

B
D
C
A

Page 6-22 continued
Worksheet
IT WON'T WORK THAT WAY!

B
C
A

C
A
B

C
A
B

C
E
D
B
A

INTRODUCTION TO BASIC **7-3**
TEXTBOOK WORKSHEET

NAME: ______________________________ **PERIOD:** __________

CHAPTER 7

Directions: This worksheet accompanies Chapter 7 - Introduction to BASIC, in your textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Begin on **Page 112**

1. One of the reasons that ___ BASIC ___ is so popular is that it is fairly easy to ___ read ___ and ___ understand ___. (Paragraph 4)

2. A ___ program ___ is a set of ___ instructions ___ that tells the computer what to ___ do ___. (Paragraph 5)

3. It can consist of only ___ one ___ or ___ two ___ instructions, or it can contain ___ hundreds ___ or even ___ thousands ___ of instructions. (Paragraph 5)

4. Each instruction is called a ___ program statement ___. (Paragraph 6)

5. In BASIC, each statement is given a ___ line number ___, such as ___ 10 ___, ___ 20 ___, 30, and so on. (Paragraph 6)

6. After you type a program statement, you must press a ___ special ___ key on the keyboard to send the instruction into the computer's ___ memory ___. (Paragraph 7)

7. This key is usually marked ___ return ___ or ___ enter ___. On some computers, however, it might have an arrow on it like this: ___ ↵ ___. (Paragraph 1)

8. ....a computer follows or ___ carries ___ out BASIC program statements in ___ numerical ___ order, beginning with the ___ lowest ___ number and moving to the ___ highest ___ number. (Paragraph 2)

9. A ____system____ command directs the computer to do something with the program that is ____stored____ in its memory. (Paragraph 3)

10. The system command ____RUN____, tells the computer to carry out or ____execute____ the program stored in its memory. (Paragraph 3)

12. Certain words within a program are called ____key____ words. (Paragraph 4)

12. When ____PRINT____ is followed by ____words____, ____numbers____ or symbols in ____quotation____ marks, it tells the computer to ____print____ those characters on the monitor. (Paragraph 4)

13. When it is followed by a ____math____ problem not in quotation marks, PRINT tells the computer to ____compute____ and ____print____ the answer on the monitor. (Paragraph 4)

14. SEE IF YOU CAN GUESS WHAT WILL APPEAR ON THE MONITOR WHEN YOU RUN THE PROGRAM THAT IS ON **PAGE 113.** WRITE THE ANSWER HERE. ____6____

15. SEE IF YOU CAN GUESS WHAT WILL APPEAR ON THE MONITOR WHEN YOU RUN THE PROGRAM THAT IS ON **PAGE 114** TOP LEFT. WRITE THE ANSWER HERE. ____will print Hello in an endless loop on the screen

    (There is a trick to this program. It is called an 'endless loop'. Can you explain what that means? ____program keeps going to line statement 10 where it is told to print Hello on the monitor____

16. A ____comma____ has a special meaning in a PRINT statement. It tells the computer to put ____spaces____ between the letters, words, or symbols in quotation marks. (Paragraph 4)

Page 115

17. To ____erase____ what is in memory on most computers, you type the system command ____new____ and press the RETURN key. (Paragraph 4)

Page 115

18. REM stands for ______remark______ __________________
____________________________. (Paragraph 6)

19. Using REM allows you to enter ______notes______
____________________ about the program. (Paragraph 6)

Page 116

20. ...a key word that will tell the computer to ____stop____
and wait for the person to ______enter______ the
information is called ______input______. (Paragraph 2)

21. What would you type if you would like only the OUTPUT to appear on the screen without the "list" of program statements?
______RUN______ (Paragraph 5)

22. Two commands to clear a screen are: ____Home____ or
____CLS / Clear Screen____ (Paragraph 6)

Page 117

23. When you type ______list______ and press the RETURN key, the computer will get your ____program____ statements from its memory and "list" them on the monitor. (Paragraph 2)

24. ...if you want to add an instruction between line 20 and 30, you give that instruction a ______line______ number
between the numbers ____20____ and ____30____.
(Paragraph 3)

Page 118

25. ____System____ commands tell the computer what to do with a program that is stored in its ____memory____. They are ____not____ part of the program itself. (Paragraph 1)

26. Other BASIC words are called key words or ____program____ commands, to tell the computer ____what____ to do with each program ____statement____. (Paragraph 1)

Page 118

27. Describe the three SYSTEM COMMANDS

NEW	Erases any programs previously stored in RAM.
LIST	Shows the instructions that are stored in RAM.
RUN	Tells the computer to execute the instructions in RAM.

28. Describe the eight KEY WORDS

PRINT	Tells the computer to show quaoted information or calculate math problems.
GOTO	Tells the computer to go immediately to a specific line.
INPUT	Tells the computer to expect variable information to be entered into memory.
LET	Gives a value to a variable.
IF-THEN	Tells the computer that if a certain condition is true, it must carry out a certain instruction.
FOR-NEXT	Tells the computer to do something a specified number of times.
END	Shows where a program ends or stops.
REM	Short for REMark, used to identify programs or parts of programs.

ANSWER THE **CHECKPOINT QUESTIONS** HERE FOUND IN PAGES 112-118.

29. What is a system command? Give two examples. Directs computer to do something
a. new
b. list run

30. What is a key word or program command? Give three examples.
a. print
b. goto end remark
c. input let if-then for-next

31. Why is it a good idea to number BASIC program statements by tens?

If you need to add another statement in the middle of the program.

32. What do the initials B.A.S.I.C. stand for?

Beginners All-purpose Symbolic Instruction Code

INTRODUCTION TO BASIC
ANSWER KEY

Page 7-7
Sample Test
STEPS IN PROGRAMMING

1
5
3
6
2
4

Define/analyze the problem.
Determine the steps required to solve the problem.
Put the steps in required to solve the problem.
Code the steps in the appropriate programming language
Excute/debug the program
Complete the documentation

Page 7-8
Worksheet
PRINT STATEMENTS IN BASIC PROGRAMMING

Your answer O (could vary)
Computer answer 5

Page 7-9 - worksheet continued
Print 6 * (3 + 12)/ (6-5) = 90
Hi
Syntax Error
2+3
5
44
108
68
1
6
93
119

Page 7-16
Worksheet
GIVING DIRECTIONS TO THE COMPUTER

14-18
32
Syntax Error
Hello

1 - True
2 - False

Page 7-17
Worksheet
IF-THEN

(If students decode the messages in 1-16 correctly, the statement at the bottom of the page will read)

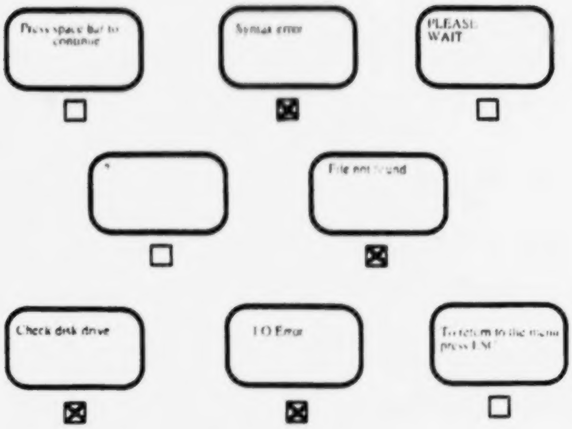
Follow directions

Page 7-18
Worksheet
WHAT HAPPENED?

Answers could vary.

	Error Message	No Error Message
1.	X	
2.	X	
3.		X
4.		X
5.	X	
6.		X
7.	X	
8.	X	
9.		X
10.		X
11.		X
12.		X
13.		X
14.		X

Page 7-19
Worksheet
IS SOMETHING WRONG?


Press space bar to continue
☐
Syntax error
☒
PLEASE WAIT
☐
?
☐
File not found
☒
Check disk drive
☒
I O Error
☒
To return to the menu press ESC
☐

INTRODUCTION TO WORD PROCESSING **8-4**
TEXTBOOK WORKSHEET

NAME: ______________________________ **PERIOD:** __________

CHAPTER 8

Directions: This worksheet accompanies Chapter 8 - Introduction to Word Processing, in your Textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Begin work on **Page 141**.

1. The best thing about word processing programs is that they make it easy for you to add to, change, erase, or correct your work. (Paragraph 5)

2. Anything you type on a word processor......is called a document (or file). (Paragraph 6)

3. Before you begin writing your document, most word processing programs require that you give it a name. This is a short title, called a filename. (Paragraph 6)

4. With some programs....filenames can not have any more than eight characters and must not contain any periods, question marks, or periods. (Paragraph 7)

5. A word processor's screen display is the number of characters (letters, numbers, symbols and spaces) that can be displayed on the screen of your TV or monitor at one time. (Paragraph 8)

6. A typical microcomputer system...can display up to 24 separate lines of information on the screen. (Paragraph 8)

7. Each line holds 40 characters. With another system, you might be able to see only 16 lines of information at once, but those lines might be up to 64 characters long. (Paragraph 8)

Page 142

8. Most documents you write will have more than 16 or 24 lines in them. (Paragraph 1)

9. Word processors show you small portions of text at a time. (Paragraph 2)

10. As you type in additional lines, the lines at the top of your screen will disappear. (Paragraph 2)

11. These lines have not been erased or lost. (Paragraph 2)

12. They have been stored in the computer's memory. (Paragraph 2)

13. You can move forward and backward through your document. One way to do this is to press the "up arrow" or "down arrow" key on your keyboard. (Paragraph 2)

14. Such movement of lines onto and off the screen is called scrolling (Paragraph 2)

15. What is the special pointer called that shows you where each character will appear? cursor (Paragraph 4)

16. A cursor is a small patch of light that moves on the computer screen as you work. (Paragraph 4)

17. ...typing is not the only way to move the cursor. You can also move it anyplace on the screen by pressing one of the arrow keys on your keyboard. (Paragraph 5)

18. With some word processors,...,you can move the cursor with a mouse...a mechanical device that looks like a small plastic box on wheels - with a wire "tail" that plugs into the computer. (Paragraph 8)

Page 143

19. If you can using a non-electric typewriter, you must move a handle, called the carriage return, to its starting position, so that you can begin a new line. (Paragraph 2)

20. With an electric typewriter, you must press a key marked return in order to start a new line. (Paragraph 2)

21. With most word processing programs, you do not have to worry about the carriage return or the RETURN key as you write. When you come to the end of a line, the cursor moves to the beginning of the next line automatically. (Paragraph 3)

22. This useful feature, which is found on most word processors, is called word wrap or wrap-around. (Last Paragraph)

Page 144

23. When you first "boot up" (load) your word processing program, you will see a list of things your program can do. This is called a menu. (Paragraph 1)

24. From the menu, you select the task you want your word processor to perform. (Paragraph 1)

25. Most word processing menus are made up of words like "edit" and "print". (Paragraph 2)

26. But some word processors have menus made up of pictures, called "icons". (Paragraph 2)

ANSWER THE **CHECKPOINT QUESTIONS** FOR EXTRA CREDIT POINTS.

27. What happens when you are typing with a word processing program and you come to the end of a line on the screen? What is this feature of the program called?
   a. cursor automatically moves to the next line
   b. word wrap or wrap around

28. What does the word scrolling mean? When would you need to scroll a document:
   a. when screen is full, top line disappears
   b. if document is bigger than what can be seen on screen

29. What do you call a picture that stands for a menu option or a program command? icon

Page 145

30. With some word processing programs, all he would have to do is move the cursor to the first "e" in "vedeo" and type an "i" right on top of it. (When correcting mistakes.) The "i" would replace the "e", and the word would be correctly spelled. (Paragraph 3)

31. With other programs, he would move the cursor to the first "e", type a command to delete it, and type an "i". (Paragraph 3)

Page 146

32. Word processing programs also have a number of different ways in which you can delete or erase whole words or sentences. (Paragraph1)

33. On some computer keyboards, there is a special function key called the control key. (Paragraph 1)

34. Sometimes the control key has this symbol on it: @. On other keyboards, it has the label CTRL on it. (Paragraph 1)

35. To erase an entire word, you might place your cursor at the beginning of the word, hold down the control key, and press the letter d (for "delete"). The letters of the word would be erased one at a time. (Paragraph 2)

36. What if you wanted to delete a whole paragraph?.....First you must mark or define the block of text that you want to delete. (Paragraphs 3 & 4)

37. ...you might move the cursor to the beginning of the first word you want to delete, and press the return or enter key on your keyboard. (Paragraph 4)

38. Next, you might move the cursor to the end of the last word you want to delete, and press the return or enter key again. (Paragraph 4)

39. What if you erase something and then you want it back? Some word processors have what is called an undelete feature. It's also called "unerase"," yankback", or "oops!" depending on which word processing program you use. (Paragraph 6)

40. When the computer erases lines that you have marked, it removes them from the screen. But it also stores them in a section of its memory called a buffer. (Paragraph 7)

41. So if you change your mind, you can get the deleted material back from the buffer by pressing a certain key or be selecting the "unerase" function from the menu. (Paragraph 7)

Page 147

42. (Word processors)...let you move a word, sentence, paragraph, or a whole section of text from one place in your document to another place. (Paragraph 1)

43. The insert function lets you add new words anywhere you like in a sentence or paragraph. (Paragraph 5)

Page 149

44. A function called search (or "Find") helps you locate specific words and phrases in a jiffy. (Paragraph 1)

45. ....you can tell the computer to find a particular word by pressing a combination of keys or selecting the "Search" function from a menu. (Paragraph 2)

46. Using a function called Search and Replace (or "Find and Replace"), a word processor can replace the words you select with new words. (Paragraph 3)

Page 150

47. The Search-and-Replace function is very useful if you discover you have misspelled a certain word everywhere it appears in a composition. ...if you have used a certain word too many times in the same document, ...you could go back and change some of the occurences to different words that have the same meaning. (Paragraph 2)

ANSWER THE **CHECKPOINT QUESTIONS** HERE. ANSWERS CAN BE FOUND ON PAGES 144 TO 150. WORTH EXTRA CREDIT POINTS.

48. Describe one way to delete text one character at a time.
Use CTRL D

49. What word processing funtion would you use to correct a word you had misspelled several times in the same document?
search and replace

50. Name two things you can do with a block of text after you define or mark it.
   a. delete it
   b. move it

Page 151

51. When formatting and printing a document there are four (4) questions a person using a word processor might ask themself. List them here. (Paragraph 2)
   a. How much space do I want between two printed lines?
   b. Do I want the title centered?
   c. How wide do I want the top, bottom and side margins to be?
   d. Do I want to underline any words or print in special types?

52. ....used formatting commands to tell the computer how he wanted his text to look when it was printed on paper. (Paragraph 3)

53. With on-screen formatting, some programs also let you see on the monitor exactly what your document will look like on paper--before you print it out. (Paragraph 4)

54. Other word processing programs store your formatting instructions in memory but do not show you the results until you print out the document. This is called off-screen formatting. (Paragraph 4)

55. Define double-spacing. (Paragraph 5)
Skipping one line space after every line you write.

56. Define single-spacing. (Paragraph 5)
When you do not skip a line of space between text lines.

57. Define margins. (Paragraph 6)
Blank areas along the top, bottom, left and right edges of a page.

Page 152

58. The two most common types of printers for microcomputers are the dot-matrix printer and the daisy wheel printer. (Paragraph 3)

59. What are the two major differences between these two types of printer? (Paragraph 3)
a. speed
b. formation of characters on the paper

60. A daisy-wheel printer prints characters on paper with a wheel-like device. Each spoke on the wheel has a letter or other symbol attached to the end of it. To form a letter on your paper, a small hammer hits that spoke against an ink ribbon which touches the paper. (Paragraph 4)

61. A dot-matrix printer, ... forms different letters by hitting and ink ribbon against your paper with different sets of ___pins___. Thus, the characters ....are made up of tiny ___dots___. (Paragraph 5)

62. In some printouts you can see the ___individual___dots. In others there are so ___many___ dots in each character that it looks almost ___solid___. (Paragraph 5)

Page 153

63. The characters printed by a daisy-wheel printer, ...really are ___solid___. (Paragraph 2)

64. Sometimes daisy-wheel printers are called "___letter-quality___" printers because the results looks as if it had been typed on an electric typewriter. (Paragraph 2)

65. Dot-matrix printers are generally much ___faster___ than daisy-wheel printers. A typical dot-matrix printer...can print between ___80___ and ___200___ characters per second. (Paragraph 3)

66. ...a daisy-wheel printer averages between ___12___ and ___45___ characters per second. (Paragraph 4)

67. When the right margin of something that has been typed is straight, and the left margin is also straight, what is this called? ___justification___ (First Paragraph below the box)

68. The ___tab___ key makes it possible to quickly ___move___ the cursor to a ___certain___ location on a line, called a ___tab stop___ ______ (Second Paragraph below the box)

69. The most common use of a tab is to ___indent___ for a new paragraph. ...Another use for tabs is to set up ___columns___ of information. (Paragraph below the box)

Page 154

70. Name four other "fancier" formatting commands that are on word processing programs. (Paragraph 1)
    center the title of the document
    automatically number the pages
    different styles of print, bold-face, underline
    double spacing

8-12

ANSWER THE **CHECKPOINT QUESTIONS** HERE. THE ANSWERS CAN BE FOUND ON PAGES 151-154. WORTH EXTRA CREDIT POINTS.

71. What do you call commands that tell a computer how you want your text to look when it is printed on paper?
    formatting

72. What do you call the blank area along the edge of a page?
    margins

73. When you leave a line of space after every line you write, what is that called? double spacing

INTRODUCTION TO WORD PROCESSING 8-34

HOMEWORD

SOFTWARE ACTIVITY

NAME: ______________________________ **PERIOD:** __________

Practice on the computer using the following commands.

1. Remove the icons, then put them back.
2. See a final document.
3. Erase the first sentence by using the command. Then reinsert it at the end of the document.
4. "Find" all of the words "the" in the paragraph. Count them by using the find command.
5. Adjust the page length to 46 lines.
6. Set a top margin of 1 inch.
7. Set left and right margins at a different position.
8. Use a boldface type for one sentence.
9. Underline the second sentence.
10. Put text back to "normal text" position.

At any time see a final document to get a good idea of what your product will look like.

HOMEWORD
SOFTWARE ACTIVITY

NAME: ______________________________ **PERIOD:** __________

This worksheet is designed to use with the software program entitled HOMEWORD. The directions are IBM machine-specific. The STUDENT ACTIVITY DOCUMENT DATA DISK is available from the School Board of Palm Beach County District Computer Services. The worksheet follows along with the activities presented in the software.

As you complete an activity using the computer, write down what you have learned on the worksheet.

SOFTWARE INSTRUCTIONS

Using the HOMEWORD diskette, boot up the computer and follow these instructions.

1. After booting up the system, **remove the HOMEWORD disk**, after the screen has stopped with a selection of pictures at the bottom of the screen, and insert the **STUDENT ACTIVITY DOCUMENT DATA DISK** into **drive A**.
2. Press the **ESCAPE** key, to get to the **MAIN MENU.**
3. Using the **left and right arrow keys** on the numeric pad, **change the words at the** bottom of the screen **to read "FILE"** then **press ENTER.**
4. Using the **left and right arrow keys** on the numeric pad, **change the words at the** bottom of the screen **to read "GET DOCUMENT"** and **press ENTER.**
5. Using the **up and down arrow keys** on the numeric pad, **change the DIRECTORY name** to read **"DEL/INS"**, then press the **ENTER** key. This will bring to the screen that particular activity.
6. Make the changes or corrections required by the assignment you have selected. **Don't forget,** you must **move the cursor** to the line that needs to be changed. If you need to type text, you must also move the cursor to the correct line before you begin typing.
7. **Change** the words at the **bottom of the screen** to read **SELECT FILE**, and **press ENTER.**
8. **Change** the words at the **bottom of the screen** to **SAVE DOCUMENT**, press **ENTER.**
9. **Type in your last name** and press **ENTER**, then **go back to the MAIN MENU**, by pressing the **ESCAPE key, twice.**
10. You may stop here until the next day by selecting **from the MAIN MENU** the **END command,** then press **ENTER.**

HOMEWORD
SOFTWARE ACTIVITY

NAME: ________________________________ PERIOD: __________

HOMEWORD ASSIGNMENTS TO BE COMPLETED

1. **Type your name.**
   Move the cursor to the first letter of your name.
   Press the DEL (delete key) until all the letters of your name have been deleted (erased). Press the ENTER key, when finished.

2. Type the following sentence:

   The printer will make a copy of your document.

   The word "hard" has been omitted.
   Move your cursor to the "c" in copy.
   Make sure the insert key is on (you will know it is on if you see a blinking square on the screen).
   Type the word hard and press the space bar.
   Press the ENTER key, when finished.

3. Type the following sentence:

   The keyboard keyboard is used to input information into the computer.

   Notice that the word keyboard is typed twice.
   Move the cursor to the "k" in either word keyboard and press the DEL (Delete key) until the word has been deleted (erased).
   Press the ENTER key, when finished.

4. Type the following sentence:

   The monitor is a piece of hardware.

   Turn the Insert key off (you will know it is off when you see a blinking line).
   Move the cursor to the "m" in monitor.
   Type keyboar, now turn on the Insert key (you will know it is on if you see a blinking square on the screen).
   Type d.
   Press the ENTER key, when finished.

   You should now see the following sentence on the screen:

   The keyboard is a piece of hardware.

WHEN FINISHED DO THE FOLLOWING PROCEDURES, OR **IF TIME RUNS OUT.**

a. **Press ESCAPE.**
b. At the Main Menu, using the left and right arrow keys, change the word at the bottom of the screen to **FILE,** then press ENTER.
c. Using the left and right arrow keys, change the word at the bottom of the screen to **SAVE DOCUMENT**, then press ENTER.
d. **Type in your last name** and press ENTER.
e. Go back to the Main Menu by **pressing ESCAPE twice**. Change the picture so that the word **END** is highlighted.
f. **Turn off the computer.**

INTRODUCTION TO WORD PROCESSING
HOMEWORD
SOFTWARE ACTIVITY

NAME: ______________________________ **PERIOD:** _________

Student Screen
Homeword Word-Processing Activity #1

Directions: Load Homeword into the memory of the computer. Remove the Homeword disk from drive A and insert the student data disk. Be sure that the write-protect notch is covered. Select Activity 1 from the directory of files.

When you load the first activity into the memory of the computer, you should see the following paragraph on your screen.

- -

This is a   paragraph type on the IBM Personal computer usig the Homeword program. You can Use this paragraph to practice making revisions. For esample, you can insert and delete letters and spaces, and corrrect errors. You can also use the arrow keys to   move around the screen to make correctioons.

- -

Make the following corrections in the paragraph:

delete extra spaces C n
This is a paragraph type on the IBM Personal computer usig the

u p
HomeWord program. You can Use this paragrah to practice making

x
revisions. For esample, you can insert and delete letters and spaces, and

corrrect errors. You can also use the arrow keys to move around the
delete extra spaces

screen to make correctioons.

- -

After making corrections, your paragraph should look like this:

This is a paragraph typed on the IBM Personal Computer using the HomeWord program. You can use this paragraph to practice making revisions. For example, you can insert and delete letters and spaces, and correct errors. You can also use the arrow keys to move around the screen to make corrections.

HOMEWORD

SOFTWARE ACTIVITY

NAME: ______________________________ **PERIOD:** ________

Student Screen

Homeword Word-Processing Activity #2

Directions: Load Homeword into the memory of the computer. Remove the Homeword disk from drive A and insert the student data disk. Besure that the write-protect notch is covered. Select Activity 2 from the directory of files.

When you load the second activity into the memory of the computer, you should see the following paragraph on your screen.

- -

The lady was YOUNG and BEAUTIFUL. She had LONG hair and SMOOTH skin. Her teeth were STRAIGHT and her nose was SMALL. She was TALL and THIN. Her HAPPY and POLITE behavior was noticed by everyone who met her.

- -

Each word that is in capital letters is to be replaced with a word that means the **opposite**. When you replace the word with its antonym, it changes the meaning of the paragraph.

Possible word choices:

Change YOUNG to OLD
Change BEAUTIFUL to UGLY
Change LONG to SHORT
Change SMOOTH to ROUGH
Change STRAIGHT to CROOKED
Change SMALL to LARGE
Change TALL TO SHORT
Change THIN to FAT
Change HAPPY to SAD
Change POLITE to RUDE

- -

If you use the above word choices, your paragraph should look like this:

The lady was OLD and UGLY. She had SHORT hair and ROUGH skin. Her teeth were CROOKED and her nose was LARGE. She was SHORT and FAT. Her SAD and RUDE behavior was noticed by everyone who met her.

HOMEWORD

SOFTWARE ACTIVITY

NAME: ________________________________ **PERIOD:** __________

Student Screen

Homeword Word-Processing Activity #3

Directions: Load Homeword into the memory of the computer. Remove the Homeword disk from drive A and insert the student data disk. Be sure that the write-protect notch is covered. Select Activity 3 from the directory of files

When you load the third activity into the memory of the computer, you should see the following paragraph on your screen.

- -

The Bear

The BARE has a short TALE. He stepped on an OR, and now he has a SOAR foot. He also has a cold, because he stood out in the REIGN. His favorite food is STAKE. He like to walk by the lake at KNIGHT and smell the FLOURS. Sometimes he gets stung by a BE on his KNOWS.

- -

Each word that is in capital letters is to be replaced with the correct homonym (a word that sounds the same but is spelled differently).

Possible word choices:

Change BARE to BEAR
Change TALE to TAIL
Change OR to OAR
Change SOAR to SORE
Change REIGN to RAIN
Change STAKE to STEAK
Change KNIGHT to NIGHT
Change FLOURS to FLOWERS
Change BE to BEE
Change KNOWS to NOSE

- -

After making above changes, your paragraph should look like this:

The Bear

The BEAR has a short TAIL. He stepped on an OAR, and now he has a SORE foot. He also has a cold, because he stood out in the RAIN. His favorite food is STEAK. He likes to walk by the lake at NIGHT and smell the FLOWERS. Sometimes he gets stung by a BEE on his NOSE.

INTRODUCTION TO WORD PROCESSING 8-40

HOMEWORD

SOFTWARE ACTIVITY

NAME: ______________________________ **PERIOD:** _________

Student Screen

HomeWord Word-Processing Activity #4

Directions: Load Homeword into the memory of the computer. Remove the Homeword disk from drive A and insert the student data disk. Be sure that the write-protect notch is covered. Select Activity 4 from the directory of files.

When you load the fourth activity into the memory of the computer, you should see the following paragraph on your screen.

Michael and David and both their familys went scuba diving on molasses reef in the florida keys Michael's family rode to the reef in a boats the ocean was calm, and the sky was sunny and bright? michael used his diving equipmentes to explore the underwater Sea world The coral formations were Beautiful david enjoyed watching the fishes swim around. Both of the boys' parents know that their sons are glad that mans womans and childrens can enjoy the world under the sea

Make the following corrections:

Michael and David and both their famil~~y~~ies went scuba diving on

~~m~~Molasses ~~r~~Reef in the ~~f~~Florida ~~k~~Keys⊙ Michael's family rode to the reef in a

boat~~s~~⊙ ~~t~~The ocean was calm, and the sky was sunny and bright~~?~~⊙ ~~m~~Michael

used his diving equipment~~es~~ delete extra spaces to explore the underwater ~~S~~sea world The

coral formations were ~~B~~beautiful⊙ ~~d~~David enjoyed watching the fish~~es~~ swim

around. Both of the boys' parents kn~~o~~ew that their sons ~~are~~ were glad that m~~a~~en~~s~~

wom~~a~~en~~s~~ and children~~s~~ c~~an~~ould enjoy the world under the sea⊙

After making corrections, your paragraph should look like this:

Michael and David and both their families went scuba diving on Molasses Reef in the Florida Keys. Michael's family rode to the reef in a boat. The ocean was calm, and the sky was sunny and bright. Michael used his diving equipment to explore the underwater sea world. The coral formations were beautiful. David enjoyed watching the fish swim around. Both of the boys' parents knew that their sons were glad that men, women, and children could enjoy the world under the sea.

INTRODUCTION TO WORD PROCESSING **8-41**
HOMEWORD
SOFTWARE ACTIVITY

NAME: ______________________________ **PERIOD:** __________

(Student Screen)
HomeWord Word-Processing Activity #5

Directions: Load Homeword into the memory of the computer. Remove the Homeword disk from drive A and insert the student data disk. Be sure that the write-protect notch is covered. Select Activity 5 from the directory of files.

When you load the fifth activity into the memory of the computer, you should see the following paragraph on your screen:

Sarah lives on a farm. The farm has a large barn. Every day Sarah rides the bus eight miles to and from school. The bus is yellow. On the way to and from school the bus crosses a bridge over Spoon Creek. The Creek is very muddy. Once last year, after several days of rain the bridge over the creek was washed away. The bridge was very old. Sarah was unabled to go to shcool for two weeks, while the bridge was being repaired. Sarah missed her friends at school. Sarah was in the fourth grade. She was happy when she finally could go back to school.

Using the Erase text option, remove the parts of the story that are crossed out:

Sarah lives on a farm. ~~The farm has a large barn.~~ Every day Sarah rides the bus eight miles to and from school. ~~The bus is yellow~~ On the way to and from school the bus crosses a bridge over Spoon Creek. ~~The Creek is very muddy~~ Once last year, after several days of rain the bridge over the creek was washed away. ~~The bridge was very old.~~ Sarah was unable to got to school for two weeks, while the bridge was being repaired. Sarah missed her friends at school. ~~Sarah was in the fourth grade.~~ She was happy when she finally could go back to school.

After making directions, your paragraph should look like this:

Sarah lives on a farm. Every day Sarah rides the bus eight miles to and from school. On the way to and from school the bus crosses a bridge over Spoon Creek. Once last year, after several days of rain the bridge over the creek was washed away. Sarah was unable to go to school for two weeks, while the bridge was being repaired. Sarah missed her friends at school. She was happy when she finally could go back to school.

DATABASES AND COMPUTER COMMUNICATIONS 9-3
TEXTBOOK WORKSHEET

NAME: ______________________________ PERIOD: __________

CHAPTER 9

Directions: This worksheet accompanies Chapter 9 - Databases and Computer Communications, in your textbook Scholastic Computing by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Fill in the missing information or words according to the specified pages and paragraphs.

Begin on **Page 158**

1. The word data simply means information. (Paragraph 4)

2. That information may be words or numbers or both. (Paragraph 4)

3. A base is a starting point or central location for some activity. (Paragraph 4)

4. .....think of a data base, then, as a central location or collection of stored information. (Paragraph 4)

5. Usually, information in a data base is related in some way. (Paragraph 1)

6. List four (4) examples of a data base. (Paragraph 5)
   a. dictionary
   b. telephone directory
   c. cookbook
   d. encyclopedia

7. A data base management program is a computer program that manages -- organizes, stores and retrieves -- data (or information). (Paragraph 6)

8. You can think of it as an electronic filing cabinet or card box. (Paragraph 6)

Page 159

9. Different categories or items of information are called fields. (Paragraph 1)

10. A "record" is a collection or listing of related fields. (Paragraph 2)

11. List the five fields that make up a record in the address book sample. (Paragraph 3)
    a. name
    b. street address
    c. city
    d. state
    e. telephone number

12. The words "file" refers to a collection of related records. (Paragraph 3)

13. A file may consist of dozens, hundreds, or even thousands of records. (Paragraph 3)

14. A data base management program on a computer can sort through hundreds of names and find just the information you want quickly and easily. (Paragraph 7)

Page 160

15. ...the first thing you will see is a menu -- a list of the different things the program will do. (Paragraph 2)

16. Your first step in using a data base management program is to " develop a format " (Paragraph 3)

17. The program will ask you to name the file you want to create. (Paragraph 3)

18. ....you must first decide what categories of information you want to have in your data base. (Paragraph 4)

19. Based on these categories, you must develop a blank format or outline of the fields you want in each . . . .record. (Paragraph 5)

20. The number of fields that you can have in your format depends on the program you are using (Paragraph 7)

21. Some programs limit the length or number of characters that each field can hold. (Paragraph 8)

Page 161

22. Developing your format is the most important step in setting up any data base management program. (Paragraph 2)

23. ....Many people design their format on paper first. (Paragraph 2)

24. What are the two steps that you must follow before you enter the information? (Paragraph 2)
    a. designing the format
    b. including all fields

25. What happens after you have typed in the information for one record, and press the RETURN or ENTER key?
    record is stored in the file (Paragraph 4)

26. Once you have all your records stored in a file, you can then search that file in a number of different ways. (Paragraph 6)

27. What are the first two steps to have a computer search a file? (Paragraph 7)
    a. call the blank format to the screen
    b. type in the key words to search

28. ....programs call these key words the retrieve specifications (Paragraph 7)

Page 162

29. Whenever the computer finds a record that has the same ___words___ as your ___retrieve___ specifications, that record will appear on the screen. (Paragraph 1)

30. With one data base management program, you can ___isolate___ the exact characters you are looking for by putting ___two___ periods before and after the characters you want. (Paragraph 5)

31. What symbol do you use to specify "less than"? ___<___ (Paragraph 7)

32. You can ___print___ an entire record, or you can specify certain ___portions___ of each record you want printed. (Paragraph 8)

ANSWER THE **CHECKPOINT QUESTIONS** HERE. WORTH **EXTRA CREDIT** POINTS.

33. Using a cookbook as an example, explain the difference between a file, a record, and a field.
file is cookbook; record is one complete recipe; field is one ingrediant

34. Explain two ways that "a format" is used in a data base management program.
a. outlines the fields for each record
b. add new records to file
retrieve or call up specific information

35. Explain the difference between an **exact match** and a **partial match** method of searching for information in a file.
exact match pulls up records that match the criteria exactly
partial match is more general

Page 165

36. Many ___information___ resources are available to you if you have a computer and a small device called a ___modem___. (Paragraph 3)

37. ....people call computer communication "telecomputing" because computer telecommunication uses telephone lines to send information back and forth from one computer to another. (Paragraph 6)

38. What are the two things you need in order for two computers to talk to each other? (Paragraph 7)
   a. modem
   b. telecommunications software program

39. The word "modem" is short for modulator/demodulator. (Paragraph 9)

40. ....moulate means to change the electrical signals that a computer understands into audio tones that can be sent across telephone lines. (Paragraph 9)

41. Demodulate means to change those tones back to electrical signals. (Paragraph 9)

Page 166

42. ...you call the telephone number of the computer you want to connect to. (Paragraph 1)

43. You then type the information you want to send on your computer keyboard. (Paragraph 1)

44. That information goes out your modem, which is plugged into your telephone line. (Paragraph 1)

45. At the other end, another modem, connected to a telephone and a computer, translates the sounds or tones that come across the telephone lines back into electrical impulses that the computer at the other end can understand. (Paragraph 1)

46. List and describe the two types of modems that most people use. Tell how each operates. (Paragraph 2)
   a. acoustic computer
   b. direct connect

Page 167

47. What are the two speeds that most modems have? (Paragraph 1)
a. 300 baud
b. 1200 baud

48. baud is simply a term that is used to tell how fast information is sent from one computer to another. (Paragraph 1)

49. Identify the difference between the two rates of speed. (Paragraph 1)
a. 1200 sends information four times as fast (1200 words per min.)
b. 1200 baud is more expensive

50. Define the word "download."(Paragraph 2) ______
to receive

51. When would someone wish to have a modem that has a 300-baud rate? (Paragraph 3) if it is less expensive

52. When would someone wish to have a modem that has a 1200-baud rate? (Paragraph 4) when you need to download a lot of information and wish to do so quickly

Page 168

53. Some computers have telecommunications software built in by the manufacture; others do not ______. (Paragraph 1)

54. Define "upload." (Paragraph 1)
send

55. List some of the features that different telecommunications software packages offer. (Paragraph 1)
a. automatically dial phone numbers
b. automatically answer the phone
c. save downloaded information to disk or buffer
d. send downloaded information to printer
e. just upload and download

Page 170

56. Define "general" information service". (Paragraph 1)
Computerized service consisting of individual data banks

57. What are the four different names that people call general information services? (Paragraph 1)
a. information utilities
b. on-line data bases
c. time-sharing services
d. time sharing networks

58. How much can a specialized service cost? (Paragraph 2) $100 per hour

59. When you subscribe to an information service, what two things do you receive? (Paragraph 3)
a. identification number
b. password

Page 171

60. What three things must you do to get the service's main menu to appear on the screen? (Paragraph 1)
a. dial the telephone number
b. type in the identification number
c. type in the password

61. What is the most popular feature of a general information service? (Paragraph 5) electronic mail

62. Electronic mail makes it easy to send all kinds of information from your computer to the computer of someone else. (Paragraph 5)

Page 172

63. Another feature of the communications data base is called the "chat mode". (Paragraph 1)

64. Define "chat". (Paragraph1) send messages back and forth

ANSWER THE FOLLOWING **CHECKPOINT QUESTIONS** COVERING THE INFORMATION ON PAGES 165 TO 172. WORTH **EXTRA CREDIT** POINT.

65. What does the term "modem" stand for? What is the purpose of a modem? Modulate/Demodulate To transfer electronic computer signals into tones to send over telephone lines

66. What does the term baud mean? What is the difference between a 300-baud and a 1200-baud modem? Rate of speed the tones are transmitted over phone lines - 300 baud is about 250-300 words per minute, 1200 baud is four times faster

67. What is another name for an information service? What are some data bases that are available through general information services? one-line data bases; time-sharing service or network; information utility

DATABASES AND COMPUTER COMMUNICATION
ANSWER KEY

Page 9-11
Sample Test
DO YOU KNOW THESE DATA BASE WORDS?

1. C
2. E
3. D
4. A
5. B

6. H
7. I
8. G
9. J
10. F

Page 9-12
Sample Test
TELECOMMUNICATIONS

1. D
2. C
3. A
4.
5. E
6. C
7. H
8. D
9. A

Page 9-13
Sample Test
1. D
2. B
3. B

Page 9-12
Worksheet

1. D
2. A
3. B

Page 9-18
Worksheet
ADVANTAGES/DISADVANTAGES

Advantages
collect information
sort informaton on line
less time to retrieve information
most current information available

Page 9-18 continued
Worksheet
ADVANTAGES/DISADVANTAGES

Disadvantage
Expensive to go on line
privacy of information (e.g. bureau credit check)
need to be trained to access file
check reliability of information (quality control)

Training, knowledge

Page 9-20
Worksheet
CLUB ROSTER REPORT

Adams, Marcy	8
Dawn, Lucy	8
Hopmeyer, Alissa	7
Kantrowitz, Gertrude	7
Liebermand, Kris	8
Shuman, Robert	7
Tong, Bebe	8
Trevisol, Norma	7
Verlain, Isaac	8
Webster, Robin	7

(Note: Directions do NOT specify putting names in alphabetical order or last name, first name.)

SKATEBOARDING	KARATE	BOWLING
Kantrowitz, Gertrude	Liebermand, Kris	Dawn, Lucy
Hopmeyer, Alissa	Trevisol, Norma	Tong, Bebe
	Adams, Marcy	Verlain, Isaac
		Webster, Robin

One student needs to select another club: Robert Shuman

Page 9-21
Worksheet
CLUB ROSTER PRINTOUT

3. (transportation)

Gertrude Kantrowitz
Robert Shuman
Robin Webster
Marcy Adams
Alissa Hopmeyer

4. Bowling

12/5/75	Isaac Verlain
3/17/76	Robin Webster
1/12/75	Bebe Tong
10/2/75	Lucy Dawn

Worksheet

CAREER AWARENESS DATABASE - Part 1

(Note: Records could be arranged in different order from the one listed)

Sales Person
Turf N' Surf
328 Fifth Street
Hopetown, FL 33499
(407) 765-3267
James Goodwin

Cashier
Steam N' Beam Dry Cleaners
5772 Sunset Blvd.
Lake City, FL 33497
(407) 632-2247
Heidi Tenenbaum

Food service
Burger Buzzard
5751 Sunset Blvd.
Lake City, FL 33497
(407) 632-1009
Pamela Picardo

Stockman
Super Mart
184 First Street
Hopetown, FL 33499
(407) 765-1498
Ramon Finkelstern

Cashier
Beak N' Claw
561 Seventh Street
Hopetown, Fl 33499
(407) 765-3708
Hyman McPherson

Sales Person
(not given)
5879 Sunset Blvd.
Lake City, FL 33497
(407) 632-1131
Vic Hugo

Stockman
Big Deal Grocery
6019 Sunset Blvd.
Lake City, FL 33497
(407) 632-5557
Harry Biltswitch

Page 9-22/23 continued

Food Service
Party Pizza
267 2nd Street
Hopetown, Fl 33499
(407) 765-0079
Frank

Food Service
Fast Food First
231 Second Street
Hopetown, FL 33499
(407) 765-3281
John Young

Cashier
Diamond Dress Shop
6011 Sunset Blvd.
Lake City, FL 33497
(407) 632-4387
Robert Hefner

Page 9-26
CAREER AWARENESS DATABASE REPORTS

REPORT 1

CASHIER

1. Steam N' Beam Dry Cleaners
2. Beak N' Claw
3. Diamond Dress Shop

FOOD SERVICE

1. Burger Buzzard
2. Party Pizza
3. Fast Food First

SALES PERSON

1. Bike Hike
2. Turf N' Surf

STOCKMAN

1. Big Deal Grocery
2. Super Mart

Page 9-27
Worksheet
REPORT II

HOPETOWN, FL

1. Turf N' Surf
2. Super Mart
3. Beak N' Claw
4. Party Pizza
5. Fast Food First

LAKE CITY, FL

1. Steam N' Beam Dry Cleaners
2. Burger Buzzard
3. Bike Hike
4. Big Deal Grocery
5. Diamond Dress Shop

Page 9-28
Worksheet
CAREER AWARENESS EVALUATION FORM PART III

(ANSWERS WILL VARY)

TERRY'S PERFORMANCE - Answers will vary from 1-Poor to 3-Average)

PAT'S PERFORMANCE - Answers will vary from 3-Average to 5-Superior)

Page 9-29/30/31
Answers on next page

Page 9-38
Study sheet
TELECOMMUNICATIONS

3 EDUCATIONAL APPLICATIONS

ERIC searches, share electronic mail, transfer grades/records of students from one school to another, hearing impaired students can "see" spontaneous communication to develop language skills, post messages/bulletins for the day

USER ID - published name by which you can sign on to an electronic network/bulletin board

USER PASSWORD - secret name or code that identifies the user and allows them entry to specific parts of a bulletin board. Normally used for security purposes or for billing purposes.

2 TELECOMMUNICATION DATA SERVICES USED EXCLUSIVELY BY EDUCATORS

SpecialNet (for Special Education administrators)
FIRN (Florida Information Retrieval Network- run by the Department of Education in Tallahassee)
ERIC - Educational database of research etc.
CompuServe - sections are targetted at educators
ECER - educational database for exceptional student education on research etc.

2 TELECOMMUNICATIONS FOR BUSINESS

ComputServe
Source

Page 9-29
Worksheet
Presidents Database

1. Grant
Hayes
Garfield
Taft
Harrison
McKinley

2. Harrison
Cleveland
Harding
Johnson

3. Hoover
Nixon

4. Washington
Jackson
Van Buren
Fillmore
Lincoln
A. Johnson
Truman
Z. Taylor
Cleveland

Page 9-30
Worksheet .
Presidents Database

5. Reagon
Ford
Carter
Nixon

6. John Tyler
A. Johnson
Fillmore
Arthur

7. Fillmore
Pierce
Lincoln
Johnson
Grant
Hayes
Garfield
Arthur
Cleveland
Harrison
McKinley
T. Roosevelt
Taft Eisenhower
Wilson
Harding
Coolidge
Hoover
F. Roosevelt
Truman

8. Polk
Pierce
Grant
Garfield
T. Roosevelt
J. Kennedy
Cleveland

Page 9-31
Worksheet
Presidents Database

9. Jackson
Z. Taylor
Grant
Taft
Kennedy
Harrison
Lincoln
Arthur
Wilson
Polk
A. Johnson
Harrison
Eisenhower

10. John Adams
Millard Fillmore
Teddy Roosevelt
Lyndon Johnson
Thomas Jefferson
A. Johnson
Calvin Coolidge
John Tyler
Chester Arthur
Harry Truman

ELECTRONIC SPREADSHEETS AND GRAPHICS PROGRAMS 10-3
TEXTBOOK WORKSHEET

NAME: ______________________________ **PERIOD:** __________

CHAPTER 10

Directions: This worksheet accompanies Chapter 10 - Electronic Spreadsheets and Graphics Programs, in your textbook Scholastic Computing, by Jack L. Roberts, printed by Scholastic Inc. in 1984.

Begin on **Page 176**

1. ...a ___spreadsheet___ is like an ___information___ table. (Paragraph 5)

2. It is a special sheet of ___paper___ that is divided into ___columns___ and ___rows___. (Paragraph 5)

Page 177

3. In a way, using an ___electronic___ spreadsheet is like having a piece of paper, pencil, and a ___calculator___ all rolled into one. (Paragraph 4)

4. The very first electronic spreadsheet for microcomputers was called ___VisiCalc___ ___Visi___ for "visible" and ___Calc___ for "calculator". (Paragraph 5)

Page 178

5. The ___power___ of an electronic spreadsheet is this: You only have to make ___one___ ___change___ in your spreadsheet. (Paragraph 4)

6. All of the other ___figures___ that are affected by that change are ___refigured___ or recalculated ___automatically___. (Paragraph 4)

7. An electronic spreadsheet is like an electronic ___table___ or ___chart___. (Paragraph 7)

8. The columns run ___vertically___ from ___top___ to ___bottom___ on your computer screen. (Paragraph 7)

9. Each column is labeled with a letter, beginning with "A". (Paragraph 7)

10. The rows run horizontally from left to right on your screen. (Paragraph 7)

11. Each row is numbered. (Paragraph 7)

Page 179

12. Each box that is created by this crisscross pattern of horizontal and vertical lines is called a cell. (Paragraph 2)

13. The cursor shows where the information you type of the keyboard will appear on the screen. (Paragraph 2)

14. The number of cells a spreadsheet has depends on the program you are using. (Paragraph 3)

15. ...you will not be able to see all of them on your monitor at the same time. (Paragraph 3)

16. What if you want additional cells that are not shown on your screen. You can simply move or scroll the spreadsheet to the left or right by pressing the left or right -arrow key on your keyboard. (Paragraph 3)

17. You can send the cursor directly to the cell you want by typing in a special command. (Paragraph 4)

18. The location of a cell is identified by its coordinates. (Paragraph 5)

19. There are three kinds of information that you can enter into the cells of a spreadsheet: words, numbers, and formulas. (Paragraph 6)

20. A formula can be any kind of mathematical equation, such as an addition or multiplication problem. (Paragraph 6)

21. In a spreadsheet program, words are called labels; numbers and formulas are called values. (Paragraph 6)

Page 180

22. There are special commands that can help you use the program more easily. (Paragraph 6)

23. There are special commands,...for saving your spreadsheet on a blank disk or for printing out your spreadsheet on paper. (Paragraph 6)

24. There are also commands for "lining up" or "formatting" your number entries into neat columns, and for correcting or "editing" your entries if you make a mistake. (Paragraph 6)

25. One group of commands are called function commands. (Paragraph 7)

26. A function command tells the computer to perform some kind of calculation such as adding a series of numbers or finding the average of those numbers. (Paragraph 7)

ANSWER THE **CHECKPOINT QUESTIONS** COVERING PAGES 176-180. WORTH **EXTRA CREDIT** POINTS.

27. What makes an electronic spreadsheet more powerful than a paper spreadsheet? electronic calculating

Pages 176- 180

28. How are columns and rows identified in an electronic spreadsheet?
columns run vertically from top to bottom and are identified with letters. rows run horizontally and are numbered.

29. What do you call each position or "box" in an electronic spreadsheet where information is entered?
cell

Page 182

30. A plan that helps you predict what your earnings or saving will be is called a forecast. (Paragraph 2 below title printed in center of page)

Page 183

31. After loading the program, you enter the heading for each column, and the name of each job on a different cell. (Paragraph 2)

32. The plus sign (+)... tells the computer that you want to store a value or number. (Paragraph 5)

33. Without the plus sign, the computer would treat B3 as a label or word because it begins with the letter "B". (Paragraph 5)

34. A function is a special formula that is built into an electronic spreadsheet. (Paragraph 6)

35. It is used for solving a mathematical problem such as calculating a sum or finding the average of several numbers. (Paragraph 6)

Page 184

36. When you type in a function command in a particular cell, it appears in the special information area at the top of your spreadsheet. (Paragraph 3)

37. After you press the return key, the result of the formula appears in the cell where your cursor is. (Paragraph 3)

38. By projecting many different possibilities, you could make better decisions about running your business. (Paragraph 5)

ANSWER THE **CHECKPOINT QUESTIONS** THAT COVER PAGES 182-184. WORTH **EXTRA CREDIT** POINTS.

39. What do you call a plan that helps you predict what you will earn or save in the future?
forecast

40. What is the name of a command that tells the computer to perform a certain calculation?

41. What symbol is used to tell the computer you want to perform a certain calculation?
+

ELECTRONIC SPREADSHEET AND GRAPHIC PROGRAMS
Answer Key

Page 10-8
Sample Test
WHAT ARE THE GRADE AVERAGES

ELECTRONIC SPREADSHEET AND GRAPHIC PROGRAMS 10-10
SAMPLE WORKSHEET

WHAT ARE THE GRADE AVERAGES

NAME: ______________________ **PERIOD:** ________________

	A	B	C	D	E	F	G	H	I
1	Name			TEST	TEST	TEST	FINAL		
2				1	2	3	AVERAGE		
3	Carson	John		93	100	89	94		
4	Fox	Michael		75	84	88	86		
5	Brown	Henry		99	98	100	99		
6	Rogers	Mary		94	89	90	91		
7									
8									

4. 1) A
   2) B
   3) A3, B3
   4) E1, E2
   5) F4

5. (answers will vary)

   grade averages
   business expenses, projections
   budgets

Page 10-13/14
Worksheet

1. column
2. row
3. cell
4. cursor
5. fields
6. sailboat

Page 10-15
Worksheet

square	rectangle
triangle	star (?)

Page 10-18/19/20
Worksheet
LET'S GO TO THE MOVIES

	A	B	C	D	E	F	G	H	I
1				**NUMBER OF MOVIES SEEN**					
2									
3	Student		Sept.	Oct.	Nov.	Dec.	Total		
4									
5	Alicia		3	2	2	3	10		
6	Billy		4	1 (4)	3	2	10 (14)		
7	David		2	5	6	2	15		
8	Frances		2	4	2	3	11		
9	Howard		4	5	3	2	14		
10	Jason		1	3	2	2	8		
11	Karen		2	3	2	2	9		
12	Mark		3	3	3	1	10		
13	Total								

3. 10, 10, 15, 11, 14, 8, 9, 10

4. (1) to (4) total will change from (10) to (14)

5. Totals across and down should both be 100

6. ex. for September (D5 + D6 + D7 + D8 + D9 + D10 + D11 + D12 / 8)

7. (D5 + D6 + D7 + D8 + D9 + D10 + D11 + D12 / 8)

8.
   1) A. row
   2) B. column
   3) A7
   4) D3
   5) E7
   6) Total number of movies seen by one student
   7) total number of movies seen in one month by all students
   8) 3
   9) 5
   10) 1

THE BENEFITS OF COMPUTERS
ANSWER KEY

Page 11-3
Sample Test
WHAT CAN YOU DO WITH A COMPUTER?

Education	B	D
Law Enforcement	I	J
Creative Arts	E	K
Health and Medicine	C	G
Work with Handicapped	F	H
Libraries	A	L

Page 11-4
Worksheet
HOW MUCH DO COMPUTERS HELP YOU EACH DAY?

answers will vary

Page 11-5
Worksheet
WHAT CAN YOU DO WITH A COMPUTER?

Answers could vary

HOME OR PERSONAL USE: List names and addresses, Write letters, Keep track of your taxes, measure how much you weight, figure how many miles you have driven

EDUCATION: Keep attendance records, List names and addresses, Write letters, Print paychecks, Figure grades, Take inventory

BUSINESS: Keep attendance records, List names and addresses, Read prices, Keep track of bank accounts, Write letters, Print paychecks, Keep track of your taxes, Take inventory, Bill customers

MEDICINE: Keep attendance records, List names and addresses, Keep track of bank accounts, Write letters, Print paychecks, Store information on diseases, Keep track of your taxes, Take inventory, Bill customers, Measure how much you weight, Compare your symptoms with those of others,

CREATIVE ARTS: Create sounds of different instruments

LAW ENFORCEMENT: List names and addresses, Write letters, Store information on crimes, Control traffic lights

Page 11-6
Worksheet
EVERYDAY COMPUTERS

(answers can vary)

COMPUTER CRIME AND ABUSE ANSWER KEY

Page 12-4
Sample Test
OK OR NOT OK?

1. Ok
2. Not Ok
3. Ok
4. Not Ok
5. Not Ok
6. Not Ok
7. Ok
8. Ok

Page 12-6
Worksheet
COPYRIGHT

(answers will vary to first two questions)

A
C
B

Page 12-7
Worksheet
CHECK YOUR KNOWLEDGE OF COMPUTER ETHICS

1. True
2. False
3. True
4. False
5. False
6. True
7. True
8. False
9. False
10. False

Page 12 - 8
Worksheet
LEGAL OR NOT?

1. Legal
2. Illegal
3. Illegal
4. Legal
5. Illegal
6. Legal
7. Legal
8. Illegal
9. Illegal
10. Legal

Page 12-14
Worksheet
COPYRIGHT COURT JURY SHEET

Case #1 - Guilty
Case #2 - Not Guilty
Case #3 - Not Guilty
Case #4 - Guilty
Case #5 - Not Guilty

Page 12-15
Worksheet
GOOD OR BAD?

1. +
   labels print out fast

2. +
   spreadsheet tabulates, sorts data/figures quickly

3. +
   save time, accuracy faster

4. -
   needs to learn purpose/function/use of computer

5. +
   faster, more accurate, inventory

Page 12-16
Worksheet
YOU BE THE JUDGE

1. Probably not a crime
2. Probably a crime
3. Probably a crime
4. Probably not a crime
5. Probably not a crime
6. Probably not a crime
7. Probably not a crime
8. Probably not a crime
10. Probably not a crime

Page 12-17
Worksheet
FIT THE CRIME

1. Unauthorized use
2. Information theft, Unauthorized use
3. Unauthorized use, Destruction of computer equipment or data
4. Financial fraud
5. Unauthorized use

COMPUTERS AND CAREERS
ANSWER KEY

Page 13-5
Sample Test
WHICH IS RIGHT?

1. B
2. C
3. B
4. D
5. A
6. B
7. C
8. B

Page 13-4
Worksheet
CAREER DAZE

1. F
2. A
3. E
4. B
5. D
6. C
7. I
8. J
9. G
10. H

Page 13-5
Worksheet
COMPUTERS IN CAREERS

1. C
2. G
3. F
4. E
5. H
6. D
7. B
8. A

9. J
10. I
11. N
12. L
13. O
14. K
15. M

SUPERCOMPUTERS OF THE FUTURE
ANSWER KEY

Page 14-3
Sample Test
ROBOTS

1. B
2. C
3. A

Page 14-4
Study Sheet
YOUR OWN ROBOT

1. T
2. T
3. F

Power System
Arms on Legs
Control System

Page 14-7
Worksheet
PAST, PRESENT OR FUTURE?

1. Past
2. Present
3. Future
4. Past
5. Future
6. Present

Page 14-8
Worksheet
(answers could vary)

PAST	**PRESENT**	**FUTURE**
Quill Pen	Ball Point Typewriter	Computer
Cycle	Riding Lawn Mower	Robot
Horse/Walk	Car/Plane	Spaceship
Wood stove	Microwave	Instant food
Pony Express	Air Mail	Telecommunication Computer mail
Abacus	Calculator	Computer Generated
Home-made games	Video games	Simulations

INTRODUCTION TO WORD PROCESSING
ANSWER KEY

PAGE 8-15/8-16
Sample Test

1. b
2. D
3. A
4. D
5. A
6. E
7. B'
8. C

(Answers could vary for 9, 10, and 11)

9. letters, reports, phone list, recipes, instructions to baby sitter

10. payroll, budget projects, cost projecteions, invoice customers, mailing labels, business letters, standard forms, mass mailings

11. book reports, term papers, homework, practice in computer class, creative writing

Page 8-18
Study Sheet
WORD PROCESSING

(answers could vary)
No
No
Yes
No
No

Page 8-21
Worksheet
THE IBM KEYBOARD

1. S
2. V
3. Shift
4. Caps Lock
5. Enter
6. T
7. ASDF
8. JKL;
9. T
10. Ctrl, Alt, Del
11. ,
12. GH

Page 8-22
Worksheet
PUNCTUATION PRINTOUT

Fifteen-year old Jonas Moonstone sat nervously in the global room of the Learning Institute. The dean of student advancement stared at Jonas's personal productivity file on the computer terminal. His face turned somber, as he shook his head.

Page 8-22 continued

"The computer shows you have failed five knowledge-based inquiries, Mr. Moonstone," the dean said. "I think you know what that means."

"Explusion," Jonas thought to himself, his heart pounding. "But...but that can't be right," Jonas stammered. "There must be some mistake in the computer files."

"The computer is never wrong, Mr. Moonstone, and it has entered the word EXPULSION next to your name."

Page 8-23
Worksheet
THE WIZARD OF OZ

Dorothy's house was picked up by a tornado and dropped in Oz.
Dorothy met the Scarecrow, the Lion and the Tin Man in the Land of Oz.
Dorothy traveled down the yellow brick road with her three companions.
Dorothy threw water on the Wicked Witch of the West.
Dorothy met the Wizard of Oz face to face.
Dorothy tapped her red slippers three times to go home.

Page 8-24
Worksheet
BILL COSBY

"It was one of my first (football) games in college. It was freezing. Only a few people came to watch the game. We players were not looking forward to playing in the cold. Our coach decided to give us a pep talk. "Do you want to win this game?" shouted the coach. "Let me hear you say FIGHT!" "Fight", we said.

"Let me hear you shout, WE WANT TO WIN!" "WE WANT TO WIN", we yelled. "Now, go out there and get'em!", yelloed the coach. All of us jumped up and began screaming our heads off as we started for the door. Then, it got very embarassing. The door was locked and we couldn't get out."

Page 8-27
Worksheet
HOMEWORD GUIDE

1. takes you from the typing area to the menu area, or from the menu area to the typing area.
2. lower right-hand corner, shows a minature of what the printed page will look like
3. if the cursor is blinking, you know you are in the typing area. It is always one space ahead of the last character you typed.
4. move cursor by using arrow keys
5. icons
6. Enter
7. Place the "icon cursor" on the choice and press Enter
8. Makes a space between letters or words; pauses the computer when you are printing the document on paper.
9. DEL (delete) and Backspace
10. Select the print icon, press Enter - customize the icon and anser the computer's questions about your printer.
11. See final document
12. start numbering the pages of your document with a number other than one.
13. your document is saved in a standard ASCII text file, so it can be used by other word processors.

Page 8-28
Worksheet
HOMEWORD GUIDE

14. print docum,ents and work on a Homeword document at the sametime.
15. in case you accidently erase the file you're working on.
16. when you want to leave or exit Homeword to use another program or stop working
17. save, most frequently used
18. 1) no spaces in the file name; 2) no more than 8 characters long
19. save the document again after making the changes
20. a selected document from the disk's file or a blank document (used to clear screen and memory)
21. either you forgot to save the document, or you've typed the wrong name
22. 1) lines are single spaced
    2) top and bottom margins are 6 lines
    3) left and right margins indented 10 characters
    4) paragraph indentations are not made when you hit Enter twice to start a new paragraph
    5) 16 ta stops - 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75 and 80
    6) page width is 88 characters across and 66 lines long
23. change preset layout
24. save customized choices
25. if the printer is parallel or serial
26. PgDn - move forward one screen page
    PgUp - move back one screen page
    Ctrl PgDn - moves forward one printed page
    Ctrl PgUp - moves back one printed page

Page 8-29
Worksheet
Homeword Guide

27. B
28. E
29. F
30. A
31. C
32. D

Page 8-30
Worksheet
Homeword Guide

33. D
34. A
35. B
36. C

Page 8-31
Worksheet
Homeword Guide

37. E
38. C
39. A
40. F
41. B
42. D

Page 8-32
Worksheet
Homeword Guide

43. B
44. D
45. C
46. A

Page 8-33
Worksheet
Homeword Guide

47. C
48. E
49. B
50. D
51. A

Page 8-34
Worksheet
Homeword Guide

52. C
53. F
54. E
55. A
56. B
57. D

Page 8-35
Worksheet
Control Keys

(LEFT COLUMN)	(RIGHT COLUMN)
moves cursor back one character	moves back one printed page
jumps forward a word	moves to the end of the document
jumps back a word	toggles between normal and overwrite mode
moves the cursor down one line	moves forward one printed page
moves the cursor up one line	moves to next tab setting
moves forward one screen page	capitalizes next character
deletes character the cursor is on	capitalizes all characters until you press it again to unlock it
moves back one screen page	removes icons to provide a full screen typing area
deletes characters as it moves the cursor to the left	moves to the beginning of the document
moves forward one character	moves the cursor to the end of the screen line